

Appendix D

Botanical Report
2002

Special Status Species Report Botanical Survey Pocket Canyon TCP/THP

Pocket Canyon
Sonoma County, California

Prepared by

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For
Glenn T. Edwards
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DATE: June 26, 2002

To: California Department of Forestry and Fire protection
Coast/Cascade region
135 Ridgeway Avenue
Santa Rosa CA 95401

California Fish and Game
Threatened and endangered Species Programs Analyst
Natural Heritage Division
1416 9th Street
Sacramento, CA 95814

From: Dean Schlichting
North Coast Resource Management
P.O. Box 509
Redwood Valley, CA 95470

Re: BOTANICAL SURVEY AND SPECIAL SPECIES STATUS REPORT
AS REQUIRED AS MITIGATION FOR PROPOSED POCKET
CANYON TIMBER HARVEST PLAN / TIMBER CONVERSION
PERMIT IN PORTIONS OF SECTIONS 33 & 34 T8N, R10W
MDB&M.

1. **Project description:**

The proposed Pocket Canyon THP/TCP would place approximately 56 acres of land in grape production. The THP/TCP is located in the Camp Meeker quadrangle. The plan area is located on fairly gentle west facing slopes, just above of Pocket Canyon Creek. Elevations within the plan area range from 200 feet to 600 feet above sea level. Slopes range from 1% to 30%.

The conversion area is vegetated by one major plant community: Broad leaved Upland Forest in mature second growth (Mixed Evergreen forest - element code 81100) (Holland, 1986).

The Broadleaved Upland Forest is dominated by a dense over story of Coast Redwood *Sequoia semipervirens* and Douglas-Fir *Psuedostuga menziesii* with some Tan-oak *Lithocarpus densifloris*, Madrone *Arbutus menziesii*, Coast live Oak *Quercus agrifolia* and other hardwoods mixed in. There is a sparse shrub layer with a few patches of California hazel *Corylus cornuta* var. *californica*, Evergreen

huckleberry *Vaccinium ovatum* and Coyote brush *Baccharis pilularis*. Some of the more prominent herb layer species include Sweetgrass *Hierochloe occidentalis*, Redwood sorrel *Oxalis oregana*, Fairybells *Disporium hookeri* and Bracken fern *Pteridium aquilinum*.



Small opening within proposed conversion area.

3. Survey Methodology and Dates

This rare plant assessment addresses the rare native vascular plants of California with known occurrence and distribution in the assessment area. These plants are catalogued on the following lists:

1. Federally listed or proposed threatened or endangered plants.
2. California State listed or proposed rare, threatened or endangered plants.
3. California Native Plant Society's (CNPS) list 1A species (Plants presumed extinct in California)
4. CNPS list 1B species (plants rare, threatened or endangered in California and elsewhere).
5. CNPS list 2 species (plants rare, threatened or endangered in California and elsewhere).
6. CNPS list 3 species (Plants which more information is needed).

The CNPS 2 and 3 listed plants have little or no protection under CEQA, but are included in an effort to help clarify the status of these plants.

About blooming periods

The ideal period in which to identify plants, rare or otherwise, is during their known blooming periods. The blooms of rare plants often make locating, and identifying plants much easier. Though this is the preferred method, it is not the only way to identify the presence of, or exclude possibility of rare plants.

1. Plant morphology

In addition to the flowering portion of the plant, there is the vegetative portion. The vegetative portion of plants is present before the blooming period, and after. The dried flower, and plant persist long after the blooming period, and are often present the following year. In other cases plants are shrubs or perennials with very unique vegetative characteristics, and the blooming period is not needed to identify (e.g. Pygmy cypress). This evaluation is often used to identify plants outside of their blooming period, and can be used to include or exclude the possibility of rare plants in a project area.

2. Habitat

The CNPS electronic inventory lists the habitat that each rare plant is found in. Often these habitats are very specialized and unique. These habitats provide very unique resources, which can only be provided in these situations (e.g. serpentine soils, vernal wet soils, and marshes and swamps with open canopy). The majority of land in timber production does not contain these habitats nor does it provide the resources needed for the survival of these plants. This evaluation can be used to include or exclude the possibility of rare plants in a project area.

In many cases some habitats have similar microclimate conditions as others (e.g. North Coast Coniferous Forest and Broad-leaved Upland Forest), and the possibility exists that some plants could exist outside of their listed habitats. To prepare for this I have included the plant that's listed habitat is not present, but have a remote possibility of living in the conditions offered by habitats present. The possibility of this occurring is slight and this is just a precaution.

According to the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Vascular Plants of California and the National Diversity Data Base (NDDDB), there are sixty-one plant species that are rare and endangered within the Camp Meeker and the quadrangles within 5 miles of the plan, (Sebastopol, Healdsburg, Duncans Mills, Cazadero and Guerneville). **Additional consideration for any other known species for the region was taken.** See attachment for CNPS full data printouts for the above quadrangles.

Native Name Scientific Name	Status	Associated Habitat	Blooming period	Habitat In plan area
Blasdale's Bent Grass <i>Agrostis blasdalei</i>	CNPS; 1B Federal; Species of concern	Coastal Dunes, Coastal Bluff Scrub, Coastal Prairie	May - July	No
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	CNPS; 1B Federal; Endangered	Marshes and swamps (freshwater), Riparian Scrub	May-July	No
Napa false indigo <i>Amorpha</i> <i>californica</i> var. <i>napensis</i>	CNPS; 1B	Broadleafed upland Forest, Chaparral, Cismontane Woodland	April-July	Yes
The Cedar's manzanita <i>Arctostaphylos</i> <i>bakeri</i> ssp. <i>sublaevis</i>	CNPS; 1B	Closed Cone Coniferous Forest, Chaparral /serpentine seeps	February- May	No
Baker's manzanita <i>Arctostaphylos</i> <i>bakeri</i> ssp. <i>bakeri</i>	CNPS; 1B	Broadleafed Upland Forest, Chaparral /serpentine seeps	February- May	Yes
Vine Hill manzanita <i>Arctostaphylos</i> <i>densiflora</i>	CNPS; 1B State; Endangered Federal; Species of concern	Chaparral (acid marine sand)	February- April	No
Sonoma sunshine <i>Blenosperma bakeri</i>	CNPS; 1B State; Endangered Federal; Endangered	Valley and Foothill grassland (mesic) in Vernal Pools	March - May	No
Narrow-anthered California brodiaea <i>Brodiaea California</i> var. <i>leptandra</i>	CNPS; 1B	Broadleafed Upland Forest, Chaparral, Lower Montane Coniferous Forest	May-July	Yes
Bolander's reed grass <i>Calamagrostis</i> <i>bolanderi</i>	CNPS; 1B	Bogs and Fens, Closed Cone Coniferous Forest, Coastal scrub, Meadows (mesic), Marshes and Swamps (freshwater), North	June- August	Possible

		Coast Coniferous Forest / mesic.		
Thurber's Reed grass <i>Calamagrostis crassiglumis</i>	CNPS; 2 Federal; Species of concern	Coastal Scrub (mesic) Marshes and Swamps (freshwater)	May-July	No
The Cedar's fairy-lantern <i>Calchortus raichei</i>	CNPS; 1B Federal; Species of concern	Closed-cone Coniferous Forest, Chaparral / serpentinite	May-August	No
Coastal bluff morning-glory <i>Calystegia purpurata ssp. saxicola</i>	CNPS; 1B	Coastal dunes, Coastal scrub	May-August	No
Swamp harebell <i>Campanula californica</i>	CNPS; 1B Federal; Species of concern	Bogs and Fens, Closed-cone Coniferous Forest, Coastal prairie, Meadows, Marshes and Swamps (freshwater), North Coast Coniferous Forest / Mesic	June-October	Possible
White sedge <i>Carex albida</i>	CNPS; 1B State; Endangered Federal; Endangered	Bogs and Fens, Marshes and Swamps (freshwater)	May-July	No
Bristly sedge <i>Carex comosa</i>	CNPS; 2	Coastal prairie, Marshes and Swamps (lake margins), Valley and Foothill Grassland	May-September	No
Pitkin marsh Indian paintbrush <i>Castilleja uliginosa</i>	CNPS; 1A State; Endangered	Marshes and Swamps	June-July	No
Rincon ridge Ceanothus <i>Ceanothus confusus</i>	CNPS; 1B Federal; Species of concern	Closed Cone Coniferous Forest, Chaparral, Cismontane Woodland /volcanic or serpentinite	February-April	No
Vine hill ceanothus <i>Ceanothus foliosus var. vineatus</i>	CNPS; 1B	Chaparral	March-May	No
Dwarf Soaproot <i>Chlorogalum pomeridianum</i>	CNPS; 1B	Chaparral (serpentinite)	May-August	No
Sonoma spineflower <i>Chorizanthe valida</i>	CNPS; 1B State; Endangered Federal; Endangered	Coastal prairie	June-August	No
Vine Hill Clarkia <i>Clarkia imbricata</i>	CNPS; 1B State; Endangered Federal; Endangered	Chaparral, Valley and Foothill Grassland / acidic sandy loam	June-August	No
Pennell's bird's-beak	CNPS; 1B State; Rare	Closed-cone coniferous forest, Chaparral /	June-September	No

<i>Cordylanthus tenuis</i> <i>ssp. capillaris</i>	Federal; Endangered	serpetinite		
Baker's larkspur <i>Delphinium bakeri</i>	CNPS; 1B State; Rare Federal; Endangered	Coastal scrub	March-May	No
Yellow larkspur <i>Delphinium luteum</i>	CNPS; 1B State; Rare Federal; Endangered	Chaparral, Coastal prairie, Coastal scrub / rocky	March-May	No
Dwarf downingia <i>Downingia pusilla</i>	CNPS; 2	Valley and Foothill Grassland (mesic), Vernal pools	March-May	No
Narrow-leaved daisy <i>Erigeron angustatus</i>	CNPS; 1B	Chaparral (serpetinite)	May- September	No
Streamside Daisy <i>Erigeron biolettii</i>	CNPS; 3	Broadleafed Upland Forest, Cismontane Woodland, North Coast coniferous Forest	June-Sept.	Yes
Serpentine daisy <i>Erigeron</i> <i>serpentinus</i>	CNPS; 1B	Chaparral (serpetinite, seeps)	May- August	No
Tiburon buckwheat <i>Erigonium luteolum</i> <i>var. caninum</i>	CNPS; 3	Chaparral, Coastal prairie, Valley and Foothill Grassland / serpentinite	June- September	No
Coast fawn lily <i>Erythronium</i> <i>revolutum</i>	CNPS; 2	Bogs and Fens, Broadleafed Upland Forest, North Coast Coniferous Forest (streambanks)	April-June	Yes
Fragrant Fritillary <i>Fritillaria liliacea</i>	CNPS; 1B Federal; Species of concern	Cismontane Woodland, Coastal Prairie, Coastal Scrub, Valley and Foothill Grassland / Often serpentine	February- April	No
Wooly-headed gilia <i>Gilia capitata ssp.</i> <i>tomentosa</i>	CNPS; 1B	Coastal Bluff Scrub (Rocky outcrops)	May - July	No
Hayfield tarplant <i>Hemizonia congesta</i> <i>ssp. leucocephala</i>	CNPS; 3	Coastal Scrub, Valley and Foothill Grassland	April- October	No
Thin-lobed horkelia <i>Horkelia tenuiloba</i>	CNPS; 1B	Broadleafed Upland Forest, Chaparral / Mesic openings, sandy	May-July	Possible
Baker's goldfields <i>Lasthenia</i> <i>macrantha ssp.</i> <i>bakeri</i>	CNPS; 1B	Closed-Cone coniferous Forest (openings), Coastal scrub	April- September	No
Burke's goldfields <i>Lasthenia burkei</i>	CNPS; 1B State; Endangered Federal; Endangered	Meadows (mesic), Vernal pools	April-June	No
Perennial goldfields <i>Lasthenia</i> <i>macrantha ssp.</i>	CNPS; 1B	Coastal bluff scrub, Coastal dunes, Coastal Scrub	January- November	No

<i>macrantha</i>				
Legenere <i>Legenere limosa</i>	CNPS; 1B	Vernal Pools	April- June	No
Crystal Springs lessingia <i>Lessingia</i> <i>arachnoidea</i>	CNPS; 1B Federal; Species of concern	Cismontane Woodland, Coastal Scrub, Valley and Foothill Grassland / serpentine, roadsides	July- October	No
Wooly headed lessingia <i>Lessingia hololueca</i>	CNPS; 3	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland / clay, serpentinite	June- October	Possible
Pitkin Marsh Lily <i>Lilium pardalinum</i> <i>ssp. pitkinense</i>	CNPS; 1B State; Endangered Federal; Endangered	Cismontane woodland, meadows, Marshes and swamps, mesic, sandy	June-July	No
Sebastopol meadowfoam <i>Limanthes vinculans</i>	CNPS; 1B State; Endangered Federal; Endangered	Meadows, Valley and Foothill Grassland, Vernal pools / Vernal mesic	April-May	No
Jepson's linanthus <i>Linanthus Jepsonii</i>	CNPS; 1B	Chaparral, Cismontane Woodland / usually volcanic	April-May	No
Marsh microseris <i>Microseris paludosa</i>	CNPS; 1B	Closed-cone coniferous Forest, Cismontane Woodland, Coastal scrub, Valley and Foothill Grassland	April - June	No
Robust monardella <i>Monardella villosa</i> <i>ssp. globosa</i>	CNPS; 1B	Chaparral, Cismontane Woodland, Coastal Scrub	June-July	No
Baker's Navarretia <i>Navarretia</i> <i>leucocephala ssp.</i> <i>bakeri</i>	CNPS; 1B	Cismontane Woodland, Lower Montane Coniferous Forest, Meadows, Valley and Foothill Grassland, Vernal Pools/ Mesic	May- August	Possible
Many-flowered Navarretia <i>Navarretia</i> <i>leucocephala ssp.</i> <i>Plieantha</i>	CNPS; 1B State; Endangered Federal; Endangered	Vernal Pools (volcanic ash flow)	May-June	No
North Coast Semaphore Grass <i>Pleuropogon</i> <i>hooverianus</i>	CNPS; 1B State; Rare Federal; Species of concern	Broadleafed Upland Forest, Meadows, Marshes and swamps (freshwater), North Coast Coniferous Forest, Vernal Pools/ Mesic	May- August	Yes

White beaked-rush <i>Rynchospora alba</i>	CNPS; 2	Bogs and Fens, Meadows, Marshes and Swamps (freshwater)	July-August	No
California beaked- rush <i>Rynchospora californica</i>	CNPS; 1B	Bogs and Fens, Lower Montane Coniferous Forest, Meadows (seeps), Marshes and Swamps (freshwater)	May-July	Possible
Brownish beaked- rush <i>Rynchospora capitellata</i>	CNPS; 2	Lower Montane Coniferous Forest, Meadows, Marshes and Swamps, Upper montane coniferous forest	July-August	Possible
Round headed beaked-rush <i>Rynchospora globularis</i> var. <i>globularis</i>	CNPS; 2	Marshes and Swamps (freshwater)	July-August	No
Purple-stemmed checkerbloom <i>Sidalcea Malviflora ssp. purpurea</i>	CNPS; 1B	Broadleaved Upland Forest, Coastal prairie	May	Yes
Secund jewel-flower <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	CNPS; 1B Federal; Species of concern	Chaparral, Cismontane Woodland, Valley and Foothill Grassland / often serpentine and rocky	March-July	No
Three peaks jewel- flower <i>Streptanthus morrisonii</i> ssp. <i>elatus</i>	CNPS; 1B Federal; Species of concern	Chaparral / serpentine	June- September	No
Dorr's cabin jewel- flower <i>Streptanthus morrisonii</i> ssp. <i>hirtiflorus</i>	CNPS; 1B Federal; Species of concern	Chaparral, Closed Cone Coniferous Forest /serpentine	June	No
Morrison's jewel- flower <i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i>	CNPS; 1B Federal; Species of concern	Chaparral / serpentine, rocky, talus	May- September	No
Showy Indian Clover <i>Trifolium amoenum</i>	CNPS; 1B Federal; Endangered	Coastal Bluff Scrub, Valley and Foothill Grassland	April-June	No
Santa Cruz Clover <i>Trifolium buckwestiorum</i>	CNPS; 1B	Broadleaved Upland Forest, Cismontane Woodland, Coastal prairie / margins	April- October	Possible
Saline Clover <i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	CNPS; 1B	Marshes and Swamps, Valley and Foothill Grassland (mesic, alkaline), Vernal Pools	April - June	No

This list was compiled to help focus on the rare plants that have the highest probability of occurring in the project area. I am familiar with

these plants, as well as many of the other rare plants in Mendocino, Sonoma, Lake, Napa, Trinity and Humboldt counties. Additional consideration for any known rare plant in these areas was taken.

Of the Sixty-one plants listed above I have narrowed the list down to the seventeen species that have a chance of surviving within the project area. I have familiarized myself with these plants, and excluded the following for these reasons.

1. Blasdale's Bent Grass *Agrostis blasdalei* grows in Bogs and Fens, Marshes and Swamps, and Mesic areas within the Closed Cone Coniferous Forest, Coastal Scrub, and North Coast Coniferous Forest plant communities of Humboldt, Mendocino and Sonoma Counties. The dense canopy and a lack of marshy areas within the conversion are not conducive to the survival of this plant. The plan area does not have the habitat required for this plants survival.
2. Sonoma alopecurus *Alopecurus aequalis var. sonomensis* grows within the freshwater marshes and swamps, and riparian scrub habitats of Marin and Sonoma counties. The dense canopy and a lack of marshy areas within the conversion area are not conducive to the survival of this plant. The plan area does not have the habitat required for this plants survival.
3. The Cedar's manzanita *Arctostaphylos bakeri subleavis* is an evergreen shrub that grows within the Closed-cone Coniferous Forest and Chaparral habitats of Sonoma County. The plan area does not have the habitat required for this plants survival.
3. Vine Hill manzanita *Arctostaphylos densiflora* grows in Chaparral habitat with acid marine soil. This plant is known only from one population on the Sonoma Barren near Forestville. This plant has a very distinct leaf arrangement and would be easily recognizable. The site did have the acid marine sand required for the survival of this plant.
4. Sonoma sunshine *Blenosperma bakeri* grows in Vernal pools within the Foothill and Valley Grassland habitats of Sonoma County. The sight lacks the habitat required for this plants survival.
5. Thurber's Reed Grass *Calamagrostis crassiglumis* is associated with Coastal Scrub (mesic), and Freshwater Marshes and

Swamps of the West coast. The site does not have the required habitat for this plants survival.

6. The Cedars fairy-lantern *Calochortus raichei* grows on the open serpentine slopes of Sonoma County within the Cismontane Woodland, and Chaparral plant communities. This plant is only known from occurrences in "The Cedars" near Guerneville. The rich soils found on this plan provide a habitat favored by many other plants, which easily out compete serpentine indicators. The dense canopies allowed by these conditions are not suitable for the survival of this plant
7. Coastal Bluff Morning Glory *Calystegia purpurata ssp. saxicola* grows on open slopes within the Coastal Dune, and Coastal Scrub Habitats of Mendocino, Marin and Sonoma Counties. The project area is completely covered by the dense canopy of the Broad-leafed Upland Forest community. The site lacks the habitat and open canopy needed for this plants survival.
8. White sedge *Carex albida* grows within freshwater Bogs, Fens, Marshes, and swamps of Sonoma County. The dense canopy and a lack of marshy areas within the conversion area are not conducive to the survival of this plant. The plan area does not have the habitat required for this plants survival.
9. Bristly sedge *Carex comosa* grows within the wet areas of the Coastal prairie and Valley and Foothill Grassland Habitats, as well as lake margins within Northwest California and the Northwestern United States. The dense canopy and a lack of marshy areas within the conversion area are not conducive to the survival of this plant. The plan area does not have the habitat required for this plants survival.
10. Pitkin marsh Indian paintbrush *Castilleja uliginosa* is said to have grown within the marshes and swamps near Sebastopol. The plan area does not have the habitat required for this plants survival.
11. Rincon ridge Ceanothus *Ceanothus confusus* grows on the open serpentine and volcanic slopes within the Closed Cone Coniferous Forests, Cismontane Woodland, and Chaparral plant communities of Sonoma, Napa, Lake and Mendocino Counties. There is no evidence of serpentine soils within the conversion area; the soils found on this plan provide a habitat favored by

many other plants, which easily out compete serpentine indicators. The habitat and soils found on this site are not suitable for this plants survival.

12. Vine hill ceanothus *Ceanothus foliosus var. vineatus* grows within Chaparral habitat of Sonoma and Mendocino counties. The habitat and soils found on this site are not suitable for this plants survival.
13. Dwarf soaproot *Chlorogalum pomeridianum var. minus* grows on the open serpentine slopes within the Chaparral habitats within Sonoma, Colusa, Lake, San Louis Obispo and Tehama counties. There is no evidence of serpentine soils within the conversion area; the soils found on this plan provide a habitat favored by many other plants, which easily out compete serpentine indicators. The habitat and soils found on this site are not suitable for this plants survival.
14. Sonoma spineflower *Chorizanthe valida* grows on open slopes within the Coastal Prairie Habitats of Marin and Sonoma Counties. The project area is completely covered by the dense canopy of the Broadleaved Upland Forest community. The site lacks the open canopy, moisture, and cool summer temperatures needed for this plants survival.
15. Vine Hill Clarkia *Clarkia imbricata* grows within Chaparral and Valley and Foothill grassland habitats that have acidic sandy loam soils of Sonoma county. The plan area does not have the habitat required for this plants survival.
16. Pennell's bird's beak *Cordylanthus tenuis ssp. capillaris* grows within the Closed-cone coniferous Forest and Chaparral habitats of western Sonoma County. The plan area does not have the habitat required for this plants survival.
17. Baker's larkspur *Delphinium Bakeri* grows within the Coastal Scrub habitats of Marin and Sonoma Counties. The plan area does not have the habitat required for this plants survival.
18. Yellow larkspur *Delphinium luteum* grows within the Chaparral, Coastal prairie, Coastal scrub (rocky areas) of Sonoma County. The plan area does not have the habitat required for this plants survival.

19. Dwarf downingia *Downingia pusila* grows in vernal pools and mesic areas within the Valley and Foothill Grassland habitats of Central California. The project area lacks the combination of vernal wet areas, and open habitats needed for this plants survival.
20. Narrow-leaved daisy *Erigeron angustatus* grows on the open serpentine slopes within the Chaparral plant communities of Sonoma, Napa, and Lake Counties. There is no evidence of serpentine soils within the conversion area; the soils found on this plan provide a habitat favored by many other plants, which easily out compete serpentine indicators. The habitat and soils found on this site are not suitable for this plants survival.
21. Serpentine daisy *Erigeron serpentinae* grows on the open serpentine seeps within the Chaparral plant communities of Sonoma County. The habitat and soils found on this site are not suitable for this plants survival.
22. Tiburon buckwheat *Eriogonum luteolum var. caninum* is an annual herb that grows within the Chaparral, Coastal prairie, and Valley and Foothill grassland habitats of west central California. The plan area does not have the habitat required for this plants survival.
23. Fragrant fritillary *Fritillaria liliacea* grows within the Cismontane Woodland, Coastal prairie, Coastal scrub, and Valley and Foothill grassland habitats west central California. The site lacks the habitat and open canopy needed for this plants survival.
24. Woolly-headed gilia *Gilia capitata ssp. tomentosa* grows on rocky outcrops within the Coastal Bluff Scrub habitats of Marin and Sonoma Counties. The dense canopy of the Broadleaved Upland Forest community covers the project area. The site lacks the open canopy, moisture, and cool summer temperatures needed for this plants survival.
25. Hayfield tarplant *Hemizonia congesta ssp. leucocephala* grows within the Coastal scrub, and Valley and Foothill Grassland habitats of Mendocino, Marin, and Sonoma Counties. The plan area does not have the habitat required for this plants survival.
26. Baker's goldfields *Lasthenia macrantha ssp. bakeri* is a perennial herb that grows within the Closed Cone Coniferous

Forest (openings), and the Coastal scrub habitats of Mendocino, Marin and Sonoma Counties. The site does not have the required habitat for this plants survival.

27. Burke's goldfields *Lasthenia burkei* is found in wet meadows and vernal pools of Lake, Mendocino and Sonoma Counties. This plant requires the early season standing water, and summer saturated soils in order to survive. The site had no standing water or moist soils of any kind. This site has no suitable habitat for the survival of this plant.
28. Perennial goldfields *Lasthenia macrantha* ssp. *macrantha* grows in the Coastal Scrub, Coastal Bluff Scrub, and Coastal dune habitats of the Central California Coast. The site lacks the habitat, open canopy, moisture, and cool summer temperatures needed for this plants survival.
29. Legenere *Legenere limosa* grows in the vernal pool habitats of Northwestern California. This plant requires the early season standing water, and summer saturated soils in order to survive. The site had no standing water or moist soils of any kind in April. This site has no suitable habitat for the survival of this plant.
30. Crystal Springs lessingia *Lessingia arachnoidea* grows within Cismontane Woodland, Coastal Scrub, Valley and Foothill grassland habitats within San Mateo and Sonoma Counties. This site has no suitable habitat for the survival of this plant.
31. Pitkin Marsh Lily *Lilium paradalinum* spp. *pitkinense* grows within the Pitkin marsh near Forestville in Sonoma County. This site has no suitable habitat for the survival of this plant.
32. Sebastopol meadowfoam *Limnanthes viniculans* is an annual herb that grows in vernal pools and vernal wet areas within the Meadows, and Valley and Foothill Grasslands of Sonoma and Napa counties. The plan area does not have the habitat required for this plants survival.
33. Jepson's Linanthus *Linanthus jepsonii* grows within Chaparral and Cismontane Woodland habitats of Lake, Sonoma, and Mendocino counties. The plan area does not have the habitat required for this plants survival.

34. Marsh microseris *Microseris paludosa* grows within Closed Cone Coniferous Forest, Cismontane Woodland, Coastal scrub and Valley and Foothill Grassland habitats of West Central California. The plan area does not have the habitat required for this plants survival.
35. Robust Monardella *Monardella villosa ssp. globosa* grows within the Chaparral, Cismontane Woodland, and Coastal scrub habitats of Northwestern California. The plan area does not have the habitat required for this plants survival.
36. Many-flowered Navarretia *Navarretia leucocephala ssp. plieantha* grows within the volcanic ash flow vernal pool habitats of Lake and Sonoma Counties. This plant requires the early season standing water, and summer saturated soils in order to survive. The site had no standing water or moist soils of any kind in April. This site has no suitable habitat for the survival of this plant.
37. White beaked-rush *Rhynchospora alba* grows within the Bogs and Fens, Meadows, and Marshes and Swamps of the Western United States. The site lacks the habitat and open canopy needed for this plants survival.
38. Round-headed beaked-rush *Rhynchospora globularis var. globularis* grows in marshes and Swamps of the western United States. The site lacks the habitat and open canopy needed for this plants survival.
39. Secund jewel-flower *Streptanthus glandulosus ssp. hoffmanii* grows on the open serpentine slopes within the Chaparral, Cismontane Woodland, and Valley and Foothill grassland plant communities of Sonoma County. The site lacks the habitat and open canopy needed for this plants survival.
40. Three peaks jewel-flower *Streptanthus morrisonii ssp. elatus* grows on the open serpentine slopes within the Chaparral plant communities of Lake, Napa and Sonoma Counties. The site lacks the habitat and open canopy needed for this plants survival.
41. Dorr's Cabin jewel-flower *Streptanthus morrisonii ssp. hirtiflorius* This plant grows on the open serpentine slopes within the Chaparral, and Closed Cone Coniferous Forest plant communities of Sonoma County. This plant is only known from

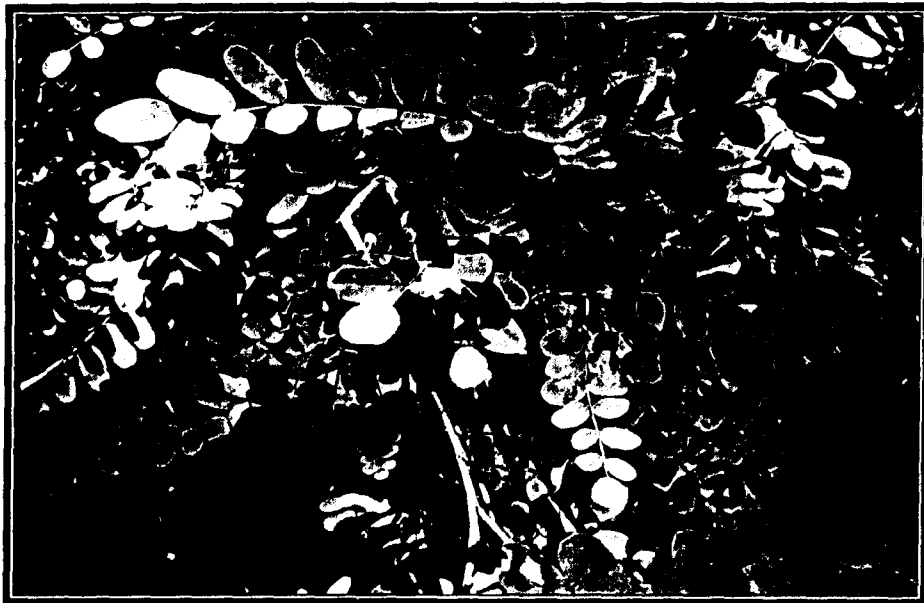
occurrences in "The Cedars" near Guerneville. The site lacks the habitat and open canopy needed for this plants survival.

42. Morrison's jewel-flower *Streptanthus morrisonii* ssp. *morrisonii* grows on the rocky serpentine slopes within the Chaparral plant communities of Sonoma County. The site lacks the habitat and open canopy needed for this plants survival.
43. Showy Indian Clover *Trifolium amoenum* is associated with the Coastal Bluff Scrub, and the Valley and Foothill Grassland habitats of northwestern California. This plant was believed to be extinct prior to its rediscovery in Sonoma County in 1993. The site lacks the habitat and open canopy needed for this plants survival.
44. Saline clover *Trifolium depauperatum* grows in Marshes and swamps, vernal pools, and mesic alkaline areas within the Valley and Foothill grassland habitats of west central California. The site had no standing water, vernal pool habitat, or alkaline areas. There is no suitable habitat for the survival of this plant.

4. Survey Methodology and Dates

The site survey was conducted on April 23, and June 10, 2002, and was conducted by making transects through the major plant communities. An additional search emphasis was placed on roads, landings, and focusing on unique habitat areas such as wet areas, and rock outcrops. During these searches, field notes on the species represented, and the habitat types were recorded.

Napa False Indigo *Amorpha californica* var. *napensis*

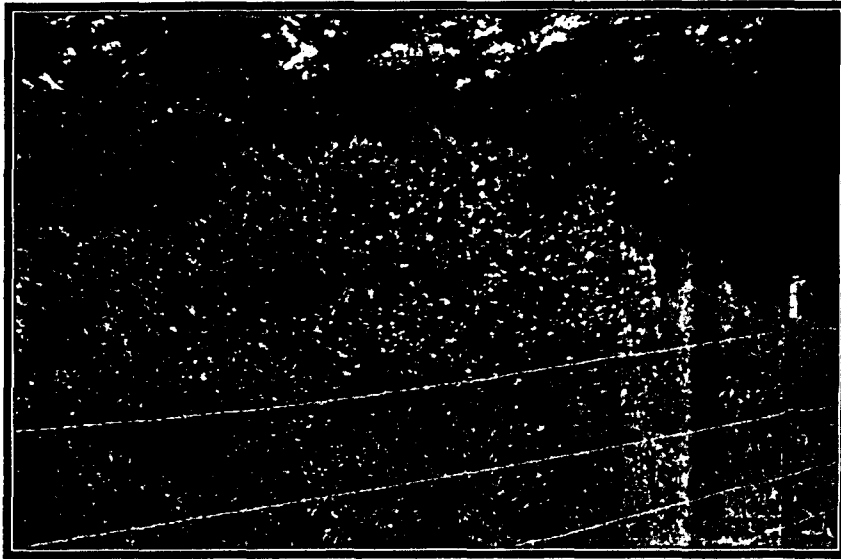


Napa False Indigo (reference population near Angwin CA)

This plant Grows in openings within the Broadleafed Upland Forest, Chaparral, and Cismontane Woodland habitats of Monterey, Marin, Napa, and Sonoma Counties.

This plant is a perennial shrub, and the vegetative structure would be present and easy to identify in the field. No sign of this plant or related plants was found within the conversion area.

Baker's manzanita *Arctostaphylos bakeri bakeri*



Baker's manzanita reference population; Harrison Grade Botanical area (near Graton, CA).

This plant is an evergreen shrub that grows within the Broadleaved Upland Forest and Chaparral habitats of Sonoma County.

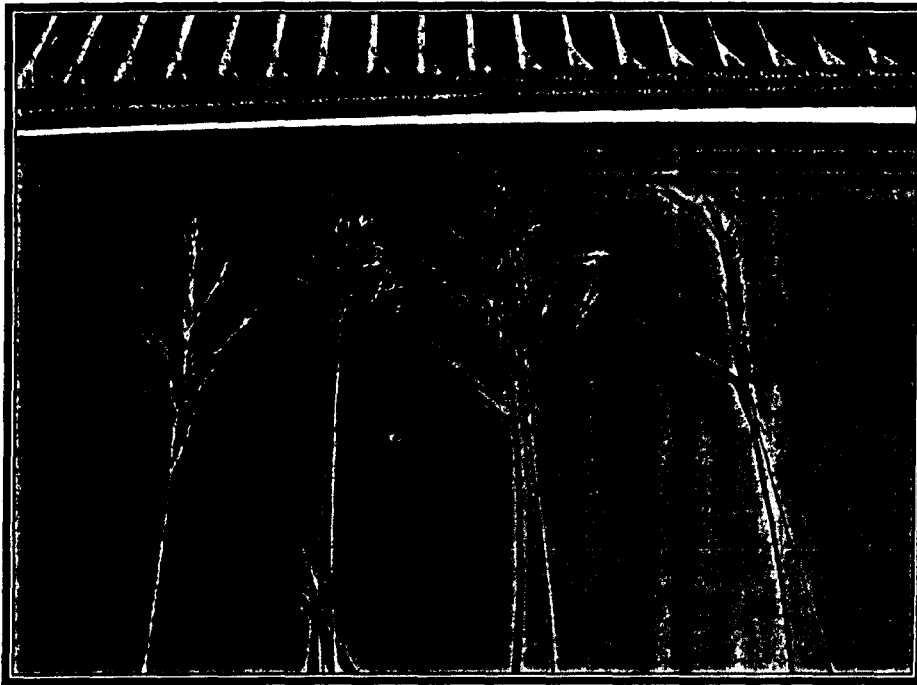
Special attention was paid to all Manzanita found within the conversion area. The one species found was *Arctostaphylos manzanita* spp. *manzanita*, this is a very common species.

Narrow-anthered California brodiaea *Brodiaea californica* var. *leptandra*

This plant grows within the Broad-leaved Upland Forest, Chaparral, and Lower Montane Coniferous Forest habitats of Lake, Napa, and Sonoma Counties.

Special attention was paid to open grassy areas throughout the property. No sign of this plant was found.

Bolander's reed grass *Calamagrostis bolanderi*



Bolander's reed grass near Alder Creek, Photo courtesy of Kent Forestry

This plant is a rhizomatous perennial herb that grows in the Bogs and Fens, Freshwater Marshes and Swamps and within the Closed-cone Coniferous Forest, Coastal scrub, Meadows, and North Coast Coniferous Forest habitats of Humboldt, Mendocino, and Sonoma Counties.

The dense canopy, and lack of recent disturbance provides little usable habitat for this plant. Search efforts were concentrated to open wet and disturbed areas. No sign of this plant, or any related plants were found in the area.

Swamp Harebell *Campanula californica*

This plant is a rhizomatous perennial herb that grows in the Bogs and Fens, Freshwater Marshes and Swamps and within the Closed-cone Coniferous Forest, Coastal prairie, Meadows, and North Coast Coniferous Forest habitats of Mendocino, Marin, Santa Cruz, and Sonoma Counties.

Special attention was paid to open disturbed areas, vernal wet areas, and stream banks within, and adjacent to the plan area. No sign of this plant was found.

***Erythronium revolutum* Coast Fawn lily**

This plant is associated with bogs and fens, and moist stream banks within the Broadleafed upland and North Coast Coniferous Forest habitats of the Northwestern United States.

Search efforts were concentrated on watercourses, wet areas, crossings and inside ditches. No sign of this plant was found within the project area.

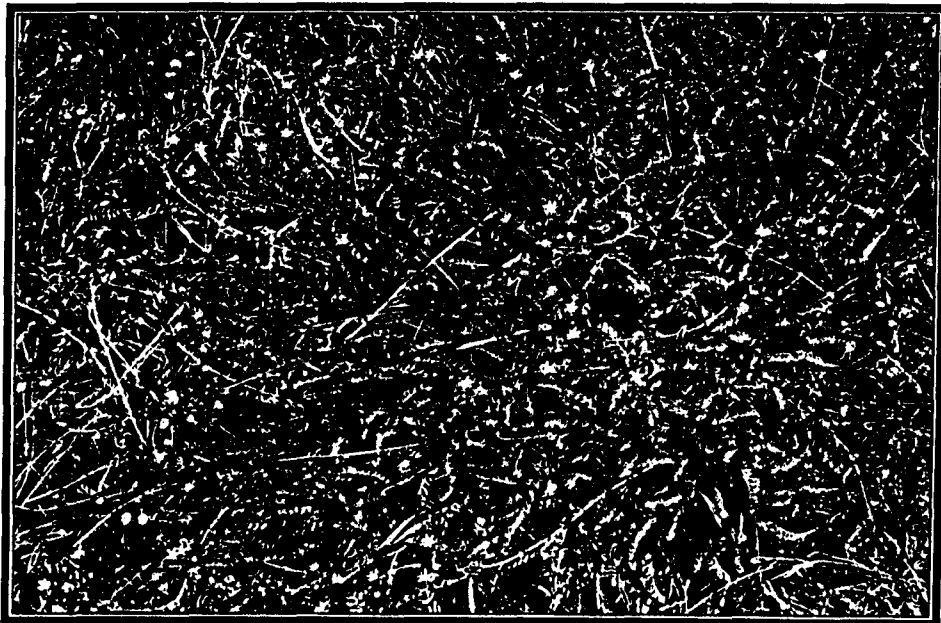
Streamside daisy *erigeron biolettii*

This plant is associated with rocky and mesic areas within the Broadleafed Upland Forest, Cismontane Woodland, and North Coast Coniferous Forest habitats of Northern California.

Special attention was paid to rocky and wet areas within the plan area. No sign of this plant was found.

Thin-lobed horkelia *Horkelia tenuiloba*

This plant grows in openings with sandy soil within the Broadleafed Upland Forest, and Chaparral plant communities of Mendocino, Marin, and Sonoma Counties.



Reference population of Thin-lobed Horkelia near Annapolis

This plant has a very distinct vegetative portion, with a very resinous smell. Special attention was paid to the open areas, and edges of the project area. No sign of this plant, or related plants was found within the conversion areas.

Wooly headed lessingia *Lessingia hololeuca*

This plant is an annual herb that grows in the Broadleaved Upland Forest, Coastal Scrub, Lower Montane Coniferous Forest, and Valley and Foothill Grassland habitats of west central California.

Special attention was paid to Forest openings and the entire conversion area. No sign of this or related plants, was found.

Baker's navarretia *Navarretia leucocephala ssp. Bakeri*

This plant is associated with vernal wet or mesic areas within the Cismontane Woodland, lower montane coniferous forest, Meadows, Valley and foothill grassland habitats of Northern California.

Special attention was paid to the open and disturbed areas within the plan area. The habitat found on the project area for this plant is marginal, and lacks the exposed vernal wet soils needed for its survival. No sign of this plant or related plants was found in the plan area.

North Coast semaphore grass *Pleuropogon hooverianus*

This plant is associated with vernal wet and mesic areas within the Broadleaved upland forest, Meadow, North Coast Coniferous forest and vernal pool habitats of Mendocino, Marin, and Sonoma counties. This plant has a very distinct inflorescence, this in combination with its large size and late summer blooming period (typically) make it easy to find and identify. North Coast semaphore grass requires areas with an open canopy, and moisture late in the summer.

Special attention was paid to the open, vernal wet, and disturbed areas within the conversion area. The habitat found on the project area for this plant is marginal, and lacks the exposed vernal wet soils needed for its survival. No sign of this plant or related plants was found in the plan area.

California beaked-rush *Rynchospora californica*

This plant is associated with marshy areas within Lower Montane Coniferous Forests and Meadows, as well as freshwater marshes and swamps of Marin and Sonoma Counties.

Special attention was paid to open and disturbed areas throughout the conversion area. The conditions within the conversion area are to dry for the survival of this plant.

Brownish beaked-rush *Rynchospora capitellata*

This plant is associated with marshy areas within Lower Montane Coniferous Forests and Meadows, as well as freshwater marshes and swamps of Marin and Sonoma Counties.

Special attention was paid to open and disturbed areas throughout the conversion area. The conditions within the conversion area are to dry for the survival of this plant.

Purple stemmed checkerbloom *Sidalcea malviflora* ssp. *purpurea*

This plant is a perennial herb that grows within the Broadleafed Upland Forest, and Coastal Prairie habitats of Mendocino, San Mateo, Marin and Sonoma Counties.

Special attention was paid to the open, and disturbed areas within and adjacent to the property. No sign of this or any related plants was found within the project area.

Santa Cruz Clover *Trifolium buckwestorium*

This plant grows within the Broadleafed Upland Forest, Cismontane Woodland, and Coastal prairie habitats of Monterey, Santa Cruz and Sonoma Counties.

Special attention was paid to small openings and roadsides within and near the plan area. No sign of this plant was found.

5. Results and discussion:

None of the above listed plants were found within or appurtenant to the plan area, and no other known rare plants were found within or near the conversion area.

Habitat key; f=Broad leaved Upland Forest g= small openings

List of flora observed; Habitat Rarity

VASCULAR PLANTS DIVISION PTEROPHYTA

DENNSTAEDTIACEAE

Bracken fern *Pteridium aquilinum* f,g native

DRYOPTERIDACEAE

Western swordfern *Polystichum munitum* f native

Lady fern *Athyrium filix-femina* f native

PTERIDACEAE

Goldback fern *Pentagramma triangularis* f native

California Maidenhair *Adiantum jordanii* f native

VASCULAR PLANTS IN DIVISION CONIFEROPHYTA GYMNOSPERMS

PINACEAE

Douglas-Fir *Pseudotsuga menziesii* f native

TAXODIACEAE

Coast redwood *Sequoia semipervirens* f native

VASCULAR PLANTS DIVISION ANTHOPHYTA ANGIOSPERMS

CLASS DICOTYLEDONAE TREES

ACERACEAE

Big leaf maple *Acer macrophyllum* f native

ERICACEAE

Madrone *Arbutus menziesii* f,g native

FAGACEAE

Tan-oak *Lithocarpus densifloris* f native

Coast live oak *Quercus agrifolia* f,g native

LAURACEAE

California bay <i>Umbellularia californica</i>	f,g	native
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VASCULAR PLANTS DIVISION ANTHOPYTA ANGIOSPERMS CLASS DICOTYLEDONAE SHRUBS AND WOODY VINES

ANACARDIACEAE

Poison oak <i>Toxicodendron diversilobum</i>	f,g	native
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ASTERACEAE

Coyote brush <i>Baccharis pilularis</i>	f,g	native
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BETULACEAE

California hazel <i>Corylus cornuta</i> var. <i>californica</i>	f,g	native
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CAPROFOLIACEAE

Hairy honeysuckle <i>Lonicera hispidula</i>	f,g	native
Creeping snowberry <i>Symphocarpus mollis</i>	f,g	native

ERICEAE

Redwood manzanita <i>Arctostaphylos columbiana</i>	f	native
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HYDROPHYLLACEAE

Yerba santa <i>Eriodictyon californicum</i>	g	native
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PHILADELPHACEAE

Modesty <i>Whippelia modesta</i>	f	native
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RHAMNACEAE

California Coffee berry <i>Rhamnus californica</i>	f,g	native
Blue blossom <i>Ceanothus thyrsifloris</i>	f	native

ROSACEAE

California blackberry <i>Rubus ursinus</i>	f,g	native
Blackcap <i>Rubus luecodermis</i>	f,g	native
Woodrose <i>Rosea gymnocarpa</i>	f,g	native

SCROPHULARIACEAE

Sticky Monkey Flower <i>Mimulus aurantiacus</i>	f	native
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VASCULAR PLANTS DIVISION ANTHOPHYTA
HERBS

APIACEAE

Sweet cicely <i>Osmorhiza chilensis</i>	f,g	native
Pacific snakeroot <i>Sanicula crassicaulis</i>	f,g	native

ASTERACEAE

White-flowered hawkweed <i>Hieracium albiflorum</i>	f,g	native
Bull thistle <i>Cirsium vulgare</i>	f,g	native
Pathfinder <i>Adenocaulon bicolor</i>	f	native
Narrow-leaved mule ears <i>Wyethia angustifolia</i>	g	native
Coast tarweed <i>Madia sativa</i>	f	native

BERBERIDACEAE

Redwood ivy <i>Vancouveria planipetala</i>	f	native
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BORAGINACEAE

Hound's tongue <i>Cyanoglossum grande</i>	f	native
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BRASSICACEAE

Toothwort <i>Cardamine californica</i> spp. <i>californica</i>	g,f	native
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FABACEAE

Wild pea <i>Lathyrus lestitus</i>	f	native
Miniature lotus <i>micranthus</i>	g	native
Spring Vetch <i>Vicia villosa</i> ssp. <i>villosa</i>	f,g	native
American vetch <i>Vicia americana</i>	f,g	native

GERANIACEAE

Doves foot <i>Geranium molle</i>	g	exotic
Cut leaved Geranium <i>Geranium dissectum</i>	g	exotic

HYDROPHYLLACEAE

Woodland nemophila <i>Nemophila heterophylla</i>	f	native
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IRIDACEAE

Douglass Iris <i>Iris douglassii</i>	f,g	native
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LAMIACEAE

Yerba beuna <i>Satureja douglassii</i>	f,g	native
California hedge nettle <i>Stachys ajugoides</i>	f,g	native

LILIACEAE

Coast flatstem onion <i>Allium falcifolium</i>	g	native
Soap plant <i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	f,g	native
False solomon's seal <i>Smilacina stellata</i>	f	native
Hooker's fairy bell <i>Disporum hookeri</i>	f	native

ORCHIDACEAE

Spotted coralroot <i>Corallorhiza maculata</i>	f	native
Calypso orchid <i>Calypso bulbosa</i>	f	native

OXALIDACEAE

Redwood sorrel <i>Oxalis oregana</i>	f	native
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POLYGALACEAE

Milkwort <i>Polygala californica</i>	f	native
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PRIMULACEAE

Pacific Star-flower <i>Trientalis latifolia</i>	f	native
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ROSACEAE

Wood strawberry <i>Fragaria vesca</i>	f,g	native
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RUBIACEAE

Goosegrass <i>Galium aparine</i>	f,g	native
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RANUNCULACEAE

California buttercup <i>Ranunculus occidentalis</i>	g	native
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SCROPHULARIACEAE

Indian warrior <i>Pedicularis densifloris</i>	f	native
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VIOLACEAE

Stream violet <i>Viola glabella</i>	f	native
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VASCULAR PLANTS DIVISION ANTHOPHYTA ANGIOSPERMS CLASS MONOCOTYLEDONAE GRASSES, SEDGES AND RUSHES

JUNCACEAE

Sedge <i>Juncus effusus</i>	f,g	native
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POACEAE

Hardin grass <i>Phalaris aquatica</i>	f,g	exotic
Poa <i>Poa bulbosa</i>	f	native
Slender wild Oats <i>Avena barbata</i>	f,g	exotic

California fescue <i>Festuca Californicus</i>	f,g	native
Sweetgrass <i>Hierochloe occidentalis</i>	f	native
Big quaking grass <i>Briza maxima</i>	f,g	native

6. Impact Assessment and Mitigation Measures:

No additional mitigation measures are necessary for the protection of the above listed plants. The proposed vineyard conversion will no have no impact on rare plants.

7. References:

Crampton, B. 1974. Grasses in California. University of California press, Berkeley, CA.

Hickman, J.C. (ed). 1993. The Jepson Manual of the Higher Plants of California. University of California press, Berkeley, CA.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Plant Communities of California. California Department of Fish and Game, Sacramento.

Skinner M and B. Pavlick 1994. Inventory of Rare and Endangered vascular Plants of California. California Native Plant Society Special Publication #1 (5th ed), Sacramento, CA.

Horn E. L. 1998. Sierra Nevada Wildflowers. Mountain Press Publishing Company, Missoula, MT.

Best C., Howell J.T., Knight W. & J., and Wells M., A Flora of Sonoma County. California Native Plant Society, Sacramento, CA.

Calfora Database at <http://galaxy.cs.berkeley.edu/calflora/>, for information on rare and endangered plants on the assessment area.

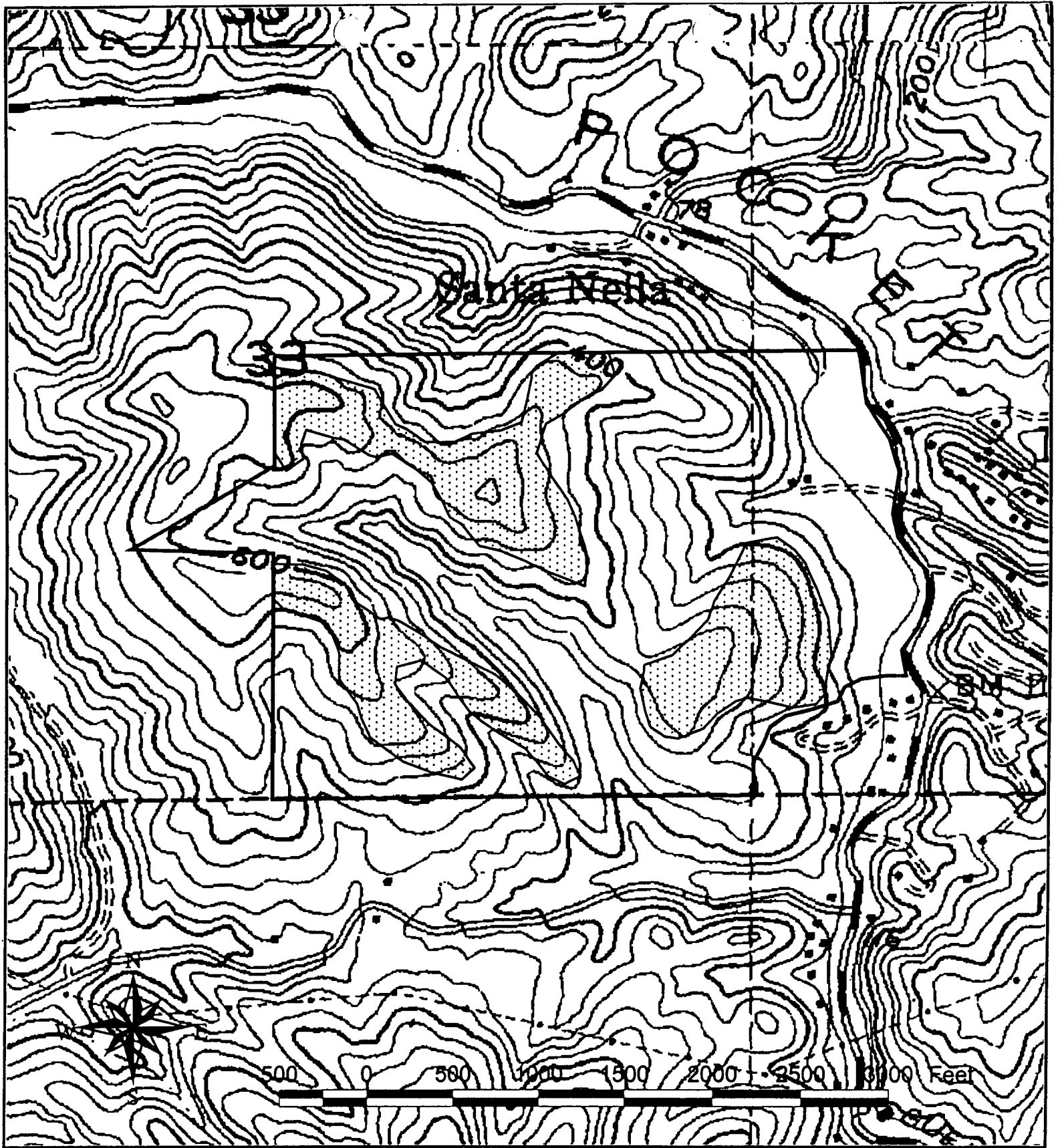
Discussions with Gordon McBride, Phd. Botanist, Fort Bragg CA., regarding habitats, identification, and the mitigation of rare plants, May 15, and August 8, 2000.

Lyons, K. and B. Cooney-Lazaneo 1988 Plants of the Coast Redwood Region. Looking press Boulder Creek, CA.

Report Author:



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University of Wisconsin, Stevens Point, Wisconsin. He has over three

years of professional experience in the study of western United States flora, and over 10 years of personal experience in the study of United States flora. Experience includes conducting special status surveys, jurisdictional wetland delineations, Forest Service indicator species surveys, Range surveys, general biological surveys, and consulting on various projects. Dean is also a current member of the California Native Plant Society.



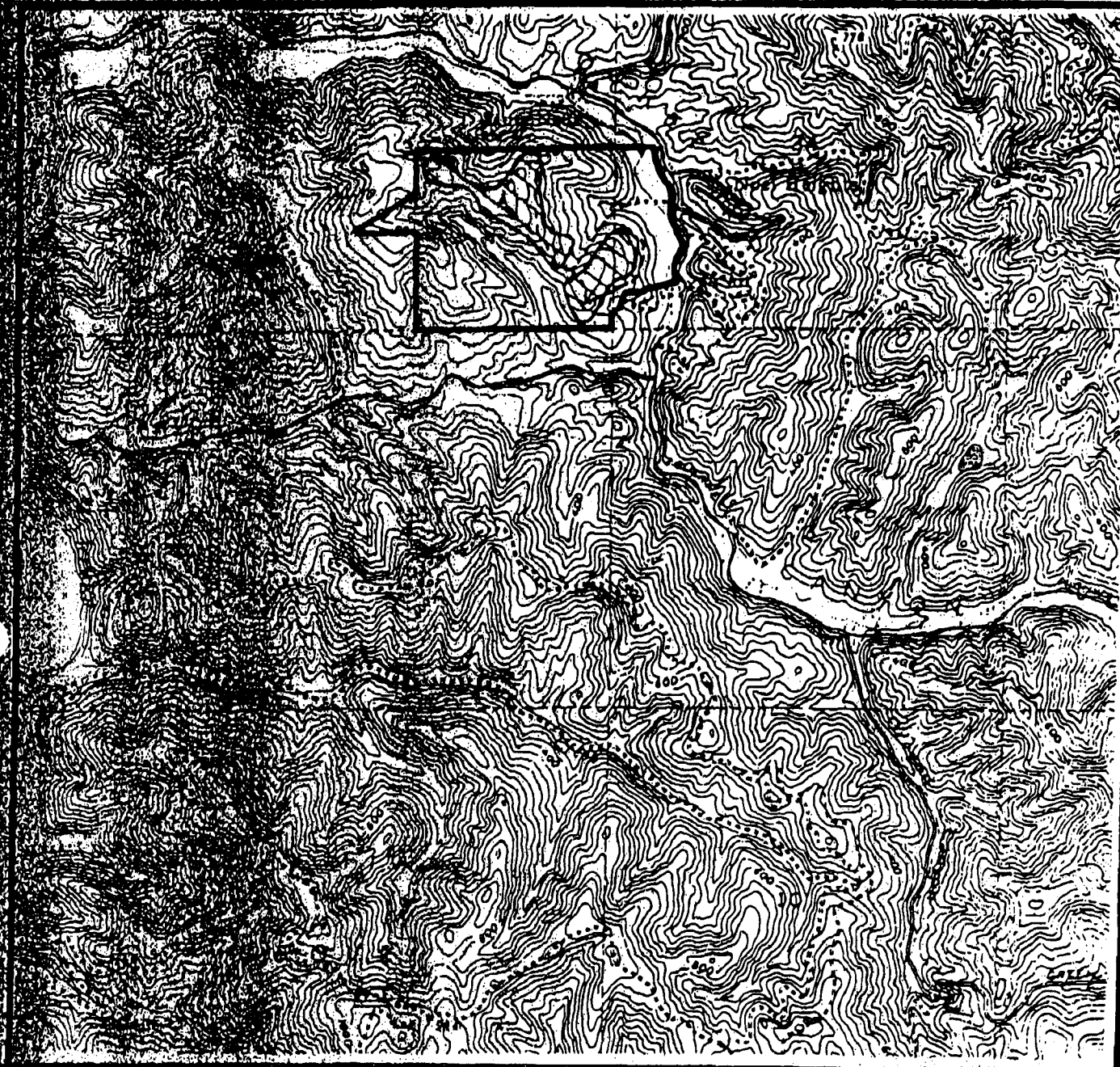
Pocket Canyon TCP/THP

Located in Camp Meeker Quadrangle
In Portions of Sections 33 & 34
T8N, R10W MDB&M
Sonoma County, CA

-  Conversion area
-  Property boundary

D-161

Pocket Canyon TCP/THP Project Area #1



Approximate Property Boundary -

Approximate Conversion Area -

Pocket Canyon Hwy. 700 -

Existing Seasonal Road - - - - -

House/Structure -

Scale: 1:24,000

Contour Interval: 40 feet

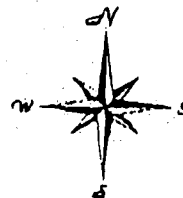
Sections of Sections 33 & 34, T8N, R10W, MDBM

Map Maker: T. S. M. Triangle

GTE & Associates

Geography Consultants

11650
Pocket Canyon
Road



Pocket canyon

Water Tank

RIVER

Santa Nella

Noel He

D-163

807

800

400

400

400

400

300

300

200

200

200

300

13

34

15

33

4

[None] R/T/E in CA
 [None] No state status
 [None] Mendocino, Marin, Santa
 Quads: Ano Nuevo (409D), Point
 Duncans Mills (520D), Bodega
 Plantation (569D)
 Habitat: Coastal bluff scrub, Coastal
 Elevation: 5-150 m.
 Notes: Known from fewer than fifteen
 field surveys. Threatened by
 bladdalei var. marinensis, which

ECURUS AEQUALIS VAR. SONOMENSIS
 "Sonoma alopecurus"
 Perennial herb
 [1B] R/T/E in CA and elsewhere
 [None] No state status
 [E] Federally listed as Endangered (10/22/95)
 in, Sonoma
 (467B), Drakes Bay (485C), Kenwood (500C)
 (502B), Two Rock (502D), Duncans Mills (503A)
 and Swamps (freshwater), Riparian scrub
 fewer than five occurrences. Two occurrences
 485D), but both appear to have failed as
 seed field surveys. Threatened by cattle trampling
 and non-native plants. See A. aequalis in

SONOMENSIS
 Family: Fabaceae
 Blooms: April-July
 R-E-D: 2-2-3
 elsewhere

(467A), Bolinas (467B), Petaluma River
 (500B), Sonoma (500C), Kenwood
 (501D), Duncans Mills (503A), Bodega
 Ellen (517A), Mount St. Helena
 (517D), Fort Ross (519C),
 Calistoga
 Chaparral, Cismontane woodland
 California, p. 556 (1925) by W.L.
 Flora 77:348-350 (1975) for

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

ARCTOSTAPHYLOS BAKERI SSP. BAKERI
"Baker's manzanita"

Family: Ericaceae

Life Form: Shrub (evergreen) **Blooms:** February-April
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-3-3
State: [CR] State listed as Rare (09/79)
Federal: [None] No federal status
Counties: Sonoma
Quads: Sonoma (500C), Camp Meeker (502B), Duncans Mills (503A), Jintown (518A)
Habitat: Broadleafed upland forest, Chaparral / often serpentinite
Elevation: 75-300 m.
Notes: Known from fewer than ten occurrences. Threatened by road construction and widening, non-native plants, and dumping, and potentially by development. See Leaflets of Western Botany 1:115 (1934) for original description.

ARCTOSTAPHYLOS BAKERI SSP. SUBLAEVIS
"The Cedars manzanita"

Family: Ericaceae

Life Form: Shrub (evergreen) **Blooms:** February-May
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Guerneville (518C), Warm Springs Dam (519A), Tombs Creek (519B), Fort Ross (519C), Cazadero (519D)
Habitat: Closed-cone coniferous forest, Chaparral / serpentinite seeps
Elevation: 300-760 m.
Notes: See Four Seasons 8(2):63 (1988) for original description.

ARCTOSTAPHYLOS DENSIFLORA
"Vine Hill manzanita"

Family: Ericaceae

Life Form: Shrub (evergreen) **Blooms:** February-April
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-3-3
State: [CE] State listed as Endangered (08/81)
Federal: [None] No federal status
Counties: Sonoma
Quads: Sebastopol (502A)
Habitat: Chaparral (acid marine sand)
Elevation: 50-120 m.
Notes: Known from only one occurrence on the Sonoma Barren near Forestville. Threatened by fungal infection. See Leaflets of Western Botany 1(4):31 (1932) for original description.

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

BLENNOSPERMA BAKERI
"Sonoma sunshine"

Family: Asteraceae

Life Form: Annual herb **Blooms:** March-May
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-3-3
State: [CE] State listed as Endangered (02/92)
Federal: [FE] Federally listed as Endangered (12/02/91)
Counties: Sonoma
Quads: Sears Point (483B), Sonoma (500C), Santa Rosa (501B), Cotati (501C), Glen Ellen (501D), Sebastopol (502A), Healdsburg (518D)
Habitat: Valley and foothill grassland (mesic), Vernal pools
Elevation: 10-110 m.
Notes: Known only from Laguna de Santa Rosa and the Sonoma area. Threatened by urbanization, grazing, and agriculture. See Madrono 9(3):103-104 (1947) for original description.

BRODIAEA CALIFORNICA VAR. LEPTANDRA
"narrow-anthered California brodiaea"

Family: Liliaceae

Life Form: Perennial herb (bulbiferous) **Blooms:** May-July
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Lake, Napa, Sonoma
Quads: Capell Valley (499B), Rutherford (500B), Sonoma (500C), Kenwood (501A), Santa Rosa (501B), St. Helena (516C), Detert Reservoir (517A), Mount St. Helena (517B), Mark West Springs (517C), Calistoga (517D), Geyserville (518B), Healdsburg (518D)
Habitat: Broadleaved upland forest, Chaparral, Lower montane coniferous forest
Elevation: 110-915 m.
Notes: Threatened by residential development. See Pittonia 1:74 (1887) for original description, American Midland Naturalist 22:570 (1939) for revised nomenclature, and University of California Publications in Botany 60:40 (1971) for taxonomic treatment.

CALAMAGROSTIS BOLANDERI
"Bolander's reed grass"

Family: Poaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** May-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Humboldt, Mendocino, Sonoma
Quads: Sebastopol (502A), Camp Meeker (502B), Valley Ford (502C), Two Rock (502D), Stewarts Point (520B), Plantation (520D), Eureka Hill (537A), Point Arena (537B), Gualala (537D), Elk (552B), Noyo Hill (568B), Fort Bragg (569A), Mendocino (569D), Rodgers Peak (689A), Trinidad (689C)
Habitat: Bogs and fens, Closed-cone coniferous forest, Coastal scrub, Meadows (mesic), Marshes and Swamps (freshwater), North Coast coniferous forest / mesic
Elevation: 0-305 m.

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

CALAMAGROSTIS CRASSIGLUMIS

"Thurber's reed grass"

Family: Poaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** May-July
CNPS List: [2] R/T/E in CA, but more common elsewhere **R-E-D:** 3-3-1
State: [None] No state status
Federal: [None] No federal status
Counties: Del Norte, Humboldt [?], Mendocino, Marin, Sonoma, Washington, widespread outside of California
Quads: Drakes Bay (485C), Sebastopol (502A), Mendocino (569D), Inglenook (585D), Crescent City (740C)
Habitat: Coastal scrub (mesic), Marshes and Swamps (freshwater)
Elevation: 10-45 m.
Notes: Known in CA from fewer than ten occurrences. Undocumented in HUM Co.; need quads. Threatened by grazing at Pt. Reyes NS. See *C. stricta* ssp. *inexpansa* in The Jepson Manual. See Botany of California 2:281 (1880) for original description.

CALOCHORTUS RAICHEI

"The Cedars fairy-lantern"

Family: Liliaceae

Life Form: Perennial herb (bulbiferous) **Blooms:** May-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Warm Springs Dam (519A), Tombs Creek (519B), Fort Ross (519C), Cazadero (519D)
Habitat: Closed-cone coniferous forest, Chaparral / serpentinite
Elevation: 200-490 m.
Notes: Known only from The Cedars near Guerneville. Potentially threatened by mining and road construction. See *Herbertia* 43(1):2-9 (1987) for original description, and *Fremontia* 15(2):18 (1987) for species account.

CALYSTEGIA PURPURATA SSP. SAXICOLA

"coastal bluff morning-glory"

Family: Convolvulaceae

Life Form: Perennial herb **Blooms:** May-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Sonoma
Quads: Tomales (485B), Drakes Bay (485C), Valley Ford (502C), Duncans Mills (503A), Bodega Head (503D), Stewarts Point (520B), Plantation (520D), Point Arena (537B)
Habitat: Coastal dunes, Coastal scrub
Elevation: 15-105 m.
Notes: See Bulletin of the Torrey Botanical Club 30(9):495 (1903) for original description, and Annals of the Missouri Botanical Garden 52(2):214 (1965) for revised nomenclature.

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

CAMPANULA CALIFORNICA
"swamp harebell"

Family: Campanulaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** June-October
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Santa Cruz [extirpated], Sonoma
Quads: Felton (408D) [extirpated], Tomales (485B), Drakes Bay (485C), Inverness (485D), Sebastopol (502A) [extirpated], Duncans Mills (503A) [extirpated], Bodega Head (503D) [extirpated], Warm Springs Dam (519A) [extirpated], Annapolis (520A), Stewarts Point (520B), Plantation (520D), Point Arena (537B), Saunders Reef (537C), Gualala (537D), Navarro (552A), Elk (552B), Albion (553A), Noyo Hill (568B), Mathison Peak (568C), Fort Bragg (569A), Mendocino (569D), Inglenook (585D)
Habitat: Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Meadows, Marshes and Swamps (freshwater), North Coast coniferous forest / mesic
Elevation: 1-405 m.
Notes: Many occurrences have few plants. Threatened by grazing, development, marsh habitat loss, and logging. See Proceedings of the California Academy of Sciences I 2:158 (1861) for original description.

CAREX ALBIDA
"white sedge"

Family: Cyperaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** May-July
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-3-3
State: [CE] State listed as Endangered (11/79)
Federal: [FE] Federally listed as Endangered (10/22/97)
Counties: Sonoma
Quads: Sebastopol (502A), Camp Meeker (502B) [extirpated]
Habitat: Bogs and fens, Marshes and Swamps (freshwater)
Elevation: 15-90 m.
Notes: Known from only one confirmed extant occurrence at Pitkin Marsh, with fewer than 1000 plants as of 1993; three historical occurrences extirpated by wetland drainage and spraying of chemical effluents. Threatened by competition with other plants, and potentially by altered hydrology. See Memoirs of the Torrey Botanical Club 1:9 (1889) for original description, and Leaflets of Western Botany 8(7):178-180 (1957) for taxonomic discussion.

CAREX COMOSA
"bristly sedge"

Family: Cyperaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** May-September
CNPS List: [2] R/T/E in CA, but more common elsewhere **R-E-D:** 3-3-1
State: [None] No state status
Federal: [None] No federal status
Counties: Contra Costa, Lake, Mendocino, San Bernardino [extirpated], Santa Cruz [extirpated], San Francisco [extirpated], Shasta, San Joaquin, Sonoma, Idaho, Oregon [extirpated], Washington, widespread outside of California
Quads: San Bernardino South (107D) [? (extirpated)], Laurel (407C) [extirpated], Felton (408D) [? (extirpated)], Holt (462B), Bouldin Island (480D), Bodega Head (503D), Guerneville (518C), Hopland (535A), Cow Mountain (550A), Fall River Mills (678C)
Habitat: Coastal prairie, Marshes and Swamps (lake margins), Valley and foothill

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

CAREX COMOSA (cont.)

grassland

Elevation: 0-425 m.

Notes: Location, rarity, and endangerment information needed; need historical quads for SFO Co. Fairly widely distributed, but apparently rarely collected. Threatened by marsh drainage. Endangered in ID, endangered in OR, and state-listed as Sensitive in WA.

CASTILLEJA ULIGINOSA

"Pitkin Marsh Indian paintbrush"

Family: Scrophulariaceae

Life Form: Perennial herb, hemiparasitic

Blooms: June-July

CNPS List: [1A] Presumed extinct in California

R-E-D: *

State: [CE] State listed as Endangered (11/78)

Federal: [None] No federal status

Counties: Sonoma [extirpated]

Quads: Sebastopol (502A) [extirpated]

Habitat: Marshes and Swamps (freshwater)

Elevation: 60 m.

Notes: Known from two occurrences in Pitkin Marsh and Trembley's Marsh. Last known remaining plant died in 1987, despite management efforts; field surveys needed, although no access allowed by landowner after 1987. See *C. miniata* ssp. *miniata* in The Jepson Manual. See Leaflets of Western Botany 3:166-117 (1942) for original description.

CEANOTHUS CONFUSUS

"Rincon Ridge ceanothus"

Family: Rhamnaceae

Life Form: Shrub (evergreen)

Blooms: February-April

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-3-3

State: [None] No state status

Federal: [None] No federal status

Counties: Lake, Mendocino, Napa, Sonoma

Quads: Rutherford (500B), Kenwood (501A), Santa Rosa (501B), Sebastopol (502A) [extirpated], Detert Reservoir (517A), Mount St. Helena (517B), Mark West Springs (517C), Calistoga (517D) [? (extirpated)], Geyserville (518B), Warm Springs Dam (519A), Whispering Pines (533C), Hopland (535A), Cloverdale (535D), Bartlett Mtn. (549A)

Habitat: Closed-cone coniferous forest, Chaparral, Cismontane woodland / volcanic or serpentinite

Elevation: 75-1,065 m.

Notes: Threatened by development. Closely related to *C. prostratus*. See Leaflets of Western Botany 2:160-162 (1939) for original description.

CEANOTHUS FOLIOSUS VAR. VINEATUS

"Vine Hill ceanothus"

Family: Rhamnaceae

Life Form: Shrub (evergreen)

Blooms: March-May

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-3-3

State: [None] No state status

Federal: [None] No federal status

Counties: Mendocino [extirpated], Sonoma

Quads: Sebastopol (502A)

Habitat: Chaparral

Elevation: 45-305 m.

Notes: Nearly extirpated in SON Co.; now confirmed from only one occurrence. Known from one historical occurrence in MEN Co., but unable to relocate;

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

CEANOTHUS FOLIOSUS VAR. *VINEATUS* (cont.)
need quads.

CHLOROGALUM POMERIDIANUM VAR. *MINUS*
"dwarf soaproot"

Family: Liliaceae

Life Form: Perennial herb (bulbiferous) **Blooms:** May-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Colusa, Lake, San Luis Obispo, Sonoma, Tehama
Quads: San Luis Obispo (246C), Lopez Mtn. (246D), Morro Bay South (247D),
Cazadero (519D), Whispering Pines (533C), Hough Springs (548A), Gilmore
Peak (564D), Paskenta (596A), Riley Ridge (596B), Hall Ridge (596C)
Habitat: Chaparral (serpentinite)
Elevation: 305-1,000 m.
Notes: See Madrono 5(5):144 (1940) for original description.

CHORIZANTHE VALIDA
"Sonoma spineflower"

Family: Polygonaceae

Life Form: Annual herb **Blooms:** June-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-3-3
State: [CE] State listed as Endangered (01/90)
Federal: [FE] Federally listed as Endangered (06/22/92)
Counties: Marin, Sonoma [extirpated]
Quads: Point Bonita (467D) [extirpated], Drakes Bay (485C), Sonoma (500C)
[extirpated], Sebastopol (502A) [extirpated], Fort Ross (519C)
[extirpated]
Habitat: Coastal prairie (sandy)
Elevation: 10-305 m.
Notes: Thought extinct for 77 years; only known extant occurrence was
rediscovered in 1980 at Pt. Reyes NS. Closely related to *C. pungens*. See
Proceedings of the American Academy of Arts and Sciences 12:271 (1877) for
original description, Phytologia 66(2):132-134 (1989) for taxonomic
treatment, Fremontia 18(1):17-18 (1990) for species account, and Madrono
39(4):271-280 (1992) and 40(4):285-288 (1993) for discussion of grazing
effects.

CLARKIA IMBRICATA
"Vine Hill clarkia"

Family: Onagraceae

Life Form: Annual herb **Blooms:** June-August
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-3-3
State: [CE] State listed as Endangered (11/78)
Federal: [FE] Federally listed as Endangered (10/22/97)
Counties: Sonoma
Quads: Sebastopol (502A)
Habitat: Chaparral, Valley and foothill grassland / acidic sandy loam
Elevation: 50-75 m.
Notes: Known from only two extant occurrences, one of which is introduced; a
third, natural occurrence has been extirpated. Threatened by development
and road maintenance. See Madrono 12(2):38 (1953) for original
description.

(California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

CORDYLANTHUS TENUIS SSP. CAPILLARIS

"Pennell's bird's-beak"

Family: Scrophulariaceae

Life Form: Annual herb, hemiparasitic
CNPS List: [1B] R/T/E in CA and elsewhere
State: [CR] State listed as Rare (11/78)
Federal: [FE] Federally listed as Endangered (02/03/95)
Counties: Sonoma
Quads: Camp Meeker (502B), Geyserville (518B)
Habitat: Closed-cone coniferous forest, Chaparral / serpentinite
Elevation: 45-305 m.
Notes: Known from fewer than five occurrences. Threatened by dumping, vehicles, and road maintenance, and potentially by development. See Systematic Botany Monographs 10:50-62 (1986) for taxonomic treatment.

DELPHINIUM BAKERI

"Baker's larkspur"

Family: Ranunculaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [CR] State listed as Rare (11/79)
Federal: [FE] Federally listed as Endangered (01/26/00)
Counties: Marin, Sonoma [extirpated]
Quads: Petaluma (484B) [extirpated], Point Reyes NE (485A), Tomales (485B) [extirpated], Camp Meeker (502B) [extirpated]
Habitat: Coastal scrub
Elevation: 80-305 m.
Notes: Known from only one occurrence along Salmon Creek; fewer than 70 individuals known as of 2000. Occurrences extirpated by agricultural conversion; threatened by road maintenance. See Bulletin of the Torrey Botanical Club 69:144 (1942) for original description.

DELPHINIUM LUTEUM

"yellow larkspur"

Family: Ranunculaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [CR] State listed as Rare (09/79)
Federal: [FE] Federally listed as Endangered (01/26/00)
Counties: Marin, Sonoma
Quads: Tomales (485B), Sebastopol (502A) [extirpated], Valley Ford (502C) [extirpated], Bodega Head (503D)
Habitat: Chaparral, Coastal prairie, Coastal scrub / rocky
Elevation: 0-100 m.
Notes: Known from only three occurrences. Plants from MRN Co. are apparently not hybrids with *D. decorum* ssp. *decorum*; hybridizes with *D. nudicaule*. Threatened by development, grazing, and road maintenance, and possibly by horticultural collecting. See Bulletin of the Southern California Academy of Sciences 2:68-69 (1903) for original description.

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

DOWNINGIA PUSILLA
"dwarf downingia"

Family: Campanulaceae

Life Form: Annual herb
CNPS List: [2] R/T/E in CA, but more common elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Merced, Mariposa, Napa, Placer, Sacramento, Solano, Sonoma, Stanislaus, Tehama, Yuba, South America
Quads: Owens Reservoir (420C), Yosemite Lake (421B), Merced (421C), La Grange (440B), Snelling (440C), Merced Falls (440D), Cooperstown (441A), Knights Ferry (459C), Denverton (481B), Antioch North (481D), Cuttings Wharf (483A), Sears Point (483B), Elk Grove (496A), Florin (496B), Galt (496D), Liberty Island (497C), Allendale (498B), Elmira (498C), Dozier (498D), Capell Valley (499B), Mt. George (499C), Yountville (500A), Napa (500D), Kenwood (501A), Glen Ellen (501D), Sebastopol (502A), Rio Linda (512B), Healdsburg (518D), Lincoln (528A), Sheridan (528B), Pleasant Grove (528C), Roseville (528D), Corning (594B), Henleyville (595A), Black Butte Dam (595D), Red Bluff East (610B), Gerber (610C), West Of Gerber (611D)
Habitat: Valley and foothill grassland (mesic), Vernal pools
Elevation: 1-445 m.
Notes: Threatened by urbanization, agriculture, grazing, vehicles, and industrial forestry.

ERIGERON ANGUSTATUS
"narrow-leaved daisy"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Lake, Napa, Sonoma
Quads: Yountville (500A), Rutherford (500B), Camp Meeker (502B), St. Helena (516C), Chiles Valley (516D), Detert Reservoir (517A), Mount St. Helena (517B), Cazadero (519D), Whispering Pines (533C), Bartlett Springs (548B)
Habitat: Chaparral (serpentine)
Elevation: 80-150 m.
Notes: See Bulletin of the Southern California Academy of Sciences 1:88 (1885) for original description, and Phytologia 72(3):157-208 (1992) for taxonomic treatment.

ERIGERON BIOLETTII
"streamside daisy"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [3] More information is needed.
State: [None] No state status
Federal: [None] No federal status
Counties: Humboldt, Mendocino, Marin, Napa, Solano, Sonoma
Quads: Cordelia (482B), Petaluma River (484A), Sonoma (500C), Kenwood (501A), Camp Meeker (502B), Duncans Mills (503A), St. Helena (516C), Mark West Springs (517C), Calistoga (517D), Philo (551C), Garberville (617D)
Habitat: Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest / rocky, mesic
Elevation: 30-1,100 m.
Notes: Move to List 1B? Location, rarity, and endangerment information needed.

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

ERIGERON BIOLETTII (cont.)

Most collections are very old. Intergrades with *E. inornatus*. See Manual of the Botany of the Region of San Francisco Bay, p. 181 (1894) by E. Greene for original description, and *Phytologia* 72(2):157-208 (1992) for taxonomic treatment.

ERIGERON SERPENTINUS

"serpentine daisy"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Healdsburg (518D), Fort Ross (519C), Cazadero (519D)
Habitat: Chaparral (serpentine, seeps)
Elevation: 60-670 m.
Notes: Known only from The Cedars and along Porter Creek. Similar to *E. angustatus*. See *Phytologia* 72(3):157-208 (1992) for original description.

ERIOGONUM LUTEOLUM VAR. *CANINUM*

"Tiburon buckwheat"

Family: Polygonaceae

Life Form: Annual herb
CNPS List: [3] More information is needed.
State: [None] No state status
Federal: [None] No federal status
Counties: Alameda, Colusa, Lake, Marin, Napa, Santa Clara, San Mateo, Sonoma [extirpated]
Quads: Santa Teresa Hills (407A), Montara Mountain (448C), Oakland East (465C), San Quentin (466B), San Francisco North (466C), San Rafael (467A), Bolinas (467B), Point Bonita (467D), Petaluma (484B), San Geronimo (484C), Capell Valley (499B), Mt. George (499C), Camp Meeker (502B) [extirpated], Walter Springs (516A), Detert Reservoir (517A), Mount St. Helena (517B) [possibly extirpated], Lucerne (549D)
Habitat: Chaparral, Coastal prairie, Valley and foothill grassland / serpentine
Elevation: 10-500 m.
Notes: Move to List 1B? Location information needed, especially quads for COL Co. Not clearly distinguishable from var. *luteolum*; *E. luteolum* is similar to *E. gracile* to the south, and *E. vimineum* to the northeast. Threatened by development and non-native plants. See *Flora Franciscana*, pp. 150-151 (1891) by E. Greene for original description, and *Phytologia* 66(4):378-379 (1989) for alternative treatment which restricts var. *caninum* to ALA and MRN counties.

ERYTHRONIUM REVOLUTUM

"coast fawn lily"

Family: Liliaceae

Life Form: Perennial herb (bulbiferous)
CNPS List: [2] R/T/E in CA, but more common elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Del Norte, Humboldt, Mendocino, Siskiyou, Sonoma, Oregon, Washington, and other states
Quads: Duncans Mills (503A), Philo (551C), Navarro (552A), Comptche (568D), Noble Butte (600B), Leggett (600C), Piercy (601A), Harris (616C), Bridgeville (635A), Iaqua Buttes (653B), Owl Creek (653C), Lord-Ellis Summit (671A),

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

ERYTHRONIUM REVOLUTUM (cont.)

Maple Creek (671D), Eureka (672C), French Camp Ridge (688A), Hupa Mountain (688D), Weed (699B), Gasquet (739C)

Habitat: Bogs and fens, Broadleafed upland forest, North Coast coniferous forest / mesic, streambanks

Elevation: 0-1,065 m.

Notes: On watch list in OR, and state-listed as Sensitive in WA. See Madrono 3(2):93-99 (1935) for taxonomic treatment.

FRITILLARIA LILIACEA

"fragrant fritillary"

Family: Liliaceae

Life Form: Perennial herb (bulbiferous)

Blooms: February-April

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 2-2-3

State: [None] No state status

Federal: [None] No federal status

Counties: Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano, Sonoma

Quads: Monterey (366C) [extirpated], Watsonville East (386B), Morgan Hill (406B), Santa Teresa Hills (407A), Los Gatos (407B), San Jose East (427D), Woodside (429A), San Gregorio (429C), Hayward (447A), Montara Mountain (448C), San Mateo (448D), Clayton (464B), Oakland East (465C), Richmond (466A) [extirpated], Antioch North (481D), Petaluma River (484A), San Geronimo (484C), Novato (484D), Point Reyes NE (485A), Tomales (485B), Drakes Bay (485C), Inverness (485D), Dozier (498D), Kenwood (501A), Santa Rosa (501B), Cotati (501C) [extirpated], Camp Meeker (502B), Two Rock (502D) [extirpated]

Habitat: Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland / often serpentine

Elevation: 3-410 m.

Notes: Threatened by grazing, agriculture, urbanization, and non-native plants. Quite variable.

GILIA CAPITATA SSP. *TOMENTOSA*

"woolly-headed gilia"

Family: Polemoniaceae

Life Form: Annual herb

Blooms: May-July

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-3-3

State: [None] No state status

Federal: [None] No federal status

Counties: Marin, Sonoma [?]

Quads: San Rafael (467A) [extirpated], Bolinas (467B) [extirpated], Point Reyes NE (485A), Tomales (485B), Inverness (485D) [extirpated], Camp Meeker (502B) [extirpated], Valley Ford (502C) [extirpated], Arched Rock (503B) [extirpated], Bodega Head (503D) [extirpated], Fort Ross (519C) [extirpated], Stewarts Point (520B) [extirpated], Plantation (520D) [possibly extirpated]

Habitat: Coastal bluff scrub (rocky, outcrops)

Elevation: 15-155 m.

Notes: Known from only three occurrences near Tomales and Salt Pt. SP. Threatened by urbanization, road maintenance, and erosion. Intergrades with ssp. *capitata* in northeastern San Francisco Bay area. See Aliso 2(3):304 (1950) for revised nomenclature.

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

HEMIZONIA CONGESTA SSP. LEUCOCEPHALA
"Hayfield tarplant"

Family: Asteraceae

Life Form: Annual herb
CNPS List: [3] More information is needed.
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Sonoma
Quads: Bolinas (467B), Petaluma (484B), Novato (484D), Tomales (485B), Kenwood (501A), Sebastopol (502A), Camp Meeker (502B), Valley Ford (502C), Two Rock (502D), Mark West Springs (517C), Healdsburg (518D), Warm Springs Dam (519A), Asti (534C), Noyo Hill (568B)
Habitat: Coastal scrub, Valley and foothill grassland
Elevation: 25-365 m.
Notes: Move to List 1B? Precise location, rarity, and endangerment information needed. Intergrades with ssp. congesta; dried plants may be indistinguishable. Many herbarium collections are misidentified. Threatened by agriculture and urbanization. See Bulletin of the Torrey Botanical Club 110:15 (1983) for original description, and Phytologia 73(3):259-260 (1992) for revised nomenclature.

HORKELIA TENUILOBA
"thin-lobed horkelia"

Family: Rosaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Sonoma
Quads: San Rafael (467A), Bolinas (467B), Sebastopol (502A), Camp Meeker (502B), Geyserville (518B), Guerneville (518C), Plantation (520D), McGuire Ridge (536C), Point Arena (537B), Saunders Reef (537C), Gualala (537D)
Habitat: Broadleaved upland forest, Chaparral / mesic openings, sandy
Elevation: 50-500 m.
Notes: Historical occurrences need field surveys. See Report of the Pacific Railroad Expedition 4(5):84 (1857) for original description, and Systematic Botany 18(1):137-144 (1993) for taxonomic treatment.

LASTHENIA BURKEI
"Burke's goldfields"

Family: Asteraceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [CE] State listed as Endangered (09/79)
Federal: [FE] Federally listed as Endangered (12/02/91)
Counties: Lake, Mendocino, Sonoma
Quads: Sebastopol (502A), Jintown (518A), Healdsburg (518D), Lower Lake (533A), Clearlake Highlands (533B), Ukiah (550B)
Habitat: Meadows (mesic), Vernal pools
Elevation: 15-600 m.
Notes: Threatened by agriculture, urbanization, and grazing. See Bulletin of the California Academy of Sciences 2(6):151 (1887) for original description, and American Journal of Botany 56(9):1042-1047 (1969) for information on origin and relationships.

(California Native Plant Society)
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

LASTHENIA MACRANTHA SSP. BAKERI

"Baker's goldfields"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Sonoma [extirpated]
Quads: Sebastopol (502A) [extirpated], Valley Ford (502C) [extirpated], Bodega Head (503D) [extirpated], Plantation (520D) [extirpated], Point Arena (537B), Saunders Reef (537C), Gualala (537D) [extirpated], Albion (553A) [extirpated], Fort Bragg (569A), Mendocino (569D)
Habitat: Closed-cone coniferous forest (openings), Coastal scrub
Elevation: 60-520 m.
Notes: See Leaflets of Western Botany 1:7 (1932) for original description, and University of California Publications in Botany 40:62 (1966) for revised nomenclature.

LASTHENIA MACRANTHA SSP. MACRANTHA

"perennial goldfields"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, San Luis Obispo, San Mateo, Sonoma
Quads: Piedras Blancas (272A), Pigeon Point (409B), Tomales (485B), Drakes Bay (485C), Valley Ford (502C), Duncans Mills (503A), Bodega Head (503D), Plantation (520D), Point Arena (537B), Saunders Reef (537C), Gualala (537D), Mallo Pass Creek (552C), Albion (553A), Fort Bragg (569A), Mendocino (569D)
Habitat: Coastal bluff scrub, Coastal dunes, Coastal scrub
Elevation: 5-520 m.
Notes: Threatened by non-native plants. See Report of the Pacific Railroad Expedition 4:106 (1857) for original description, Manual of the Botany of the Region of San Francisco Bay, p. 205 (1894) by E.L. Greene for revised nomenclature, and University of California Publications in Botany 40:59-62 (1966) for taxonomic treatment.

LEGÈNERE LIMOSA

"legenera"

Family: Campanulaceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Lake, Napa, Placer, Sacramento, Shasta, San Mateo, Solano, Sonoma [extirpated], Stanislaus [extirpated], Tehama, Yuba
Quads: Mindego Hill (428C), Escalon (460C) [extirpated], Denverton (481B), Cuttings Wharf (483A), Carbondale (495A), Goose Creek (495D), Elk Grove (496A), Florin (496B), Galt (496D), Elmira (498C) [extirpated], Dozier (498D), Fairfield North (499D) [extirpated], Glen Ellen (501D) [extirpated], Sebastopol (502A), Buffalo Creek (511C), Rio Linda (512B), Carmichael (512D), Roseville (528D), Whispering Pines (533C), Kelseyville (534A), Browns Valley (543B), Henleyville (595A), Gerber (610C), Balls Ferry (628B), Dales (628D)

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

LEGENERE LIMOSA (cont.)

Habitat: Vernal pools

Elevation: 1-880 m.

Notes: Many historical occurrences extirpated. Threatened by grazing and development. See Pittonia 2:81 (1890) for original description, North American Flora 32(1):13-14 (1943) for revised nomenclature, and Wasmann Journal of Biology 33(1-2):91 (1975) for distributional information.

LESSINGIA ARACHNOIDEA

"Crystal Springs lessingia"

Family: Asteraceae

Life Form: Annual herb

Blooms: July-October

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-2-3

State: [None] No state status

Federal: [None] No federal status

Counties: San Mateo, Sonoma [?]

Quads: Woodside (429A), Montara Mountain (448C), San Mateo (448D), Camp Meeker (502B) [?], Guerneville (518C) [?]

Habitat: Cismontane woodland, Coastal scrub, Valley and foothill grassland / serpentinite, often roadsides

Elevation: 60-200 m.

Notes: Known only from seven occurrences near Crystal Springs Reservoir (SMT Co.); occurrences from SON Co. (502B, 518C) need taxonomic verification. Threatened by non-native plants. See Leaflets of Botanical Observation and Criticism 2:29 (1910) for original description.

LESSINGIA HOLOLEUCA

"woolly-headed lessingia"

Family: Asteraceae

Life Form: Annual herb

Blooms: June-October

CNPS List: [3] More information is needed.

R-E-D: ?-?-3

State: [None] No state status

Federal: [None] No federal status

Counties: Alameda, Monterey, Marin, Napa, Santa Clara, San Mateo, Solano, Sonoma, Yolo

Quads: Pancho Rico Valley (317D), Mt. Harlan (364B), Natividad (365A), Gilroy (406D), Los Gatos (407B), Big Basin (408B) [?], Calaveras Reservoir (427A), Palo Alto (428B), Mindego Hill (428C) [?], Woodside (429A), Montara Mountain (448C), San Mateo (448D) [?], San Rafael (467A), Denverton (481B), Cuttings Wharf (483A), Petaluma Point (483C), Petaluma River (484A), San Geronimo (484C), Novato (484D), Point Reyes NE (485A), Kenwood (501A), Camp Meeker (502B), Duncans Mills (503A), Arched Rock (503B), Woodland (514A), Detert Reservoir (517A), Calistoga (517D)

Habitat: Broadleaved upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland / clay, serpentinite

Elevation: 15-305 m.

Notes: Move to List 4? Need location, rarity, and endangerment information. Probably more widespread in the southern Sacramento Valley, southern North Coast Ranges, and northern S.F. Bay. Possibly threatened by grazing. See Flora Franciscana, p. 377 (1897) by E. Greene for original description, and University of California Publications in Botany 16:40 (1929) for taxonomic treatment.

Full Data Report for the Selected Plants

Family: Liliaceae

Notes: Known from only two occurrences near Sebastopol. Most of marsh habitat has been destroyed; also threatened by horticultural collecting, grazing, and competition from other plants.

Family: Limnanthaceae

Notes: Only NAP Co. occurrence (500A) may be introduced; protected in part at Napa River ER (DFG). Threatened by urbanization, agriculture, and grazing. See Brittonia 21:11-14 (1969) for original description.

Family: Polemoniaceae

Notes: Similar to *L. parviflorus*. Not in The Jepson Manual. See Madrono 43(4):455 (1996) for original description.

(California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

MICROSERIS PALUDOSA
"marsh microseris"

Family: Asteraceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Monterey, Marin, Santa Cruz, San Francisco [extirpated], San Luis Obispo, San Mateo [extirpated], Sonoma
Quads: Pebblestone Shut-in (271A), San Simeon (271B), Piedras Blancas (272A), Burro Mountain (296D), Monterey (366C), Seaside (366D), Soquel (387B), Davenport (408C), San Gregorio (429C) [extirpated], San Francisco North (466C) [extirpated], San Rafael (467A), Tomales (485B), Drakes Bay (485C), Cotati (501C), Sebastopol (502A), Valley Ford (502C), Mark West Springs (517C), Healdsburg (518D)
Habitat: Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland
Elevation: 5-300 m.
Notes: Need quads for MEN Co. Similar to *M. laciniata* spp. *leptosepala*. See Bulletin of the California Academy of Sciences 2(5):52 (1886) for original description, and Leaflets of Western Botany 5:108 (1948) for revised nomenclature.

MONARDELLA VILLOSA SSP. GLOBOSA
"robust monardella"

Family: Lamiaceae

Life Form: Perennial herb (rhizomatous)
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Alameda, Contra Costa, Humboldt, Lake, Mendocino, Napa, San Mateo, Sonoma
Quads: Mindego Hill (428C), Niles (446C), Hayward (447A), Briones Valley (465B), Oakland East (465C), Benicia (482C), Vine Hill (482D), Fairfield North (499D), Bodega Head (503D), Healdsburg (518D), Warm Springs Dam (519A), Noble Butte (600B), Weott (635C)
Habitat: Chaparral (openings), Cismontane woodland, Coastal scrub
Elevation: 185-600 m.
Notes: Known from approximately ten occurrences. Most not recently seen; need field surveys. Need quads for LAK and MRN counties. See Pittonia 5:82 (1902) for original description, and Phytologia 72(1):9-16 (1992) for revised nomenclature.

NAVARRETTIA LEUCOCEPHALA SSP. BAKERI
"Baker's navarretia"

Family: Polemoniaceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Colusa, Lake, Mendocino, Marin, Napa, Solano, Sonoma, Tehama
Quads: Petaluma River (484A), Dozier (498D), Kenwood (501A), Santa Rosa (501B), Sebastopol (502A), St. Helena (516C), Mark West Springs (517C), Calistoga (517D), Healdsburg (518D), Lower Lake (533A), Clearlake Highlands (533B), Middletown (533D), Redwood Valley (566C), Willits (567A), Longvale (583C), Kirkwood (594C)
Habitat: Cismontane woodland, Lower montane coniferous forest, Meadows, Valley and

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

NAVARRETIA LEUCOCEPHALA SSP. BAKERI (cont.)

foothill grassland, Vernal pools / mesic

Elevation: 15-1,740 m.

Notes: May be more widespread; need information. Need quads for COL Co. Threatened by development and agriculture. See Madrono 8(6):198 (1946) for original description, and Novon 3(4):331-340 (1993) for revised nomenclature.

NAVARRETIA LEUCOCEPHALA SSP. PLIEANTHA

"many-flowered navarretia"

Family: Polemoniaceae

Life Form: Annual herb

Blooms: May-June

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-2-3

State: [CE] State listed as Endangered (11/79)

Federal: [FE] Federally listed as Endangered (06/18/97)

Counties: Lake, Sonoma

Quads: Kenwood (501A) [extirpated], Mark West Springs (517C), Healdsburg (518D), Clearlake Highlands (533B), Whispering Pines (533C), Middletown (533D), Kelseyville (534A)

Habitat: Vernal pools (volcanic ash flow)

Elevation: 30-950 m.

Notes: Known from approximately seven occurrences. Threatened by grazing, development, and vehicles. Protected in part at Loch Lomond Vernal Pool ER (DFG) and Bogg's Lake Preserve (TNC). State-listed as *N. plieantha*. Intergrades rarely with *ssp. pauciflora*. See Madrono 8(6):199 (1946) for original description, and Novon 3(4):331-340 (1993) for revised nomenclature.

PLEUROPOGON HOOVERIANUS

"North Coast semaphore grass"

Family: Poaceae

Life Form: Perennial herb (rhizomatous)

Blooms: May-August

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-3-3

State: [CR] State listed as Rare (11/79)

Federal: [None] No federal status

Counties: Mendocino, Marin, Sonoma

Quads: San Rafael (467A), San Geronimo (484C), Cotati (501C), Camp Meeker (502B), Hopland (535A), Elledge Peak (550C), Orrs Springs (551A), Boonville (551D), Willits (567A), Comptche (568D), Laytonville (583B), Longvale (583C), Cahto Peak (584A)

Habitat: Broadleaved upland forest, Meadows, Marshes and Swamps (freshwater), North Coast coniferous forest, Vernal pools / mesic

Elevation: 10-635 m.

Notes: Known from fewer than ten occurrences. Threatened by roadside maintenance. See American Journal of Botany 28:360 (1941) for original description, Leaflets of Western Botany 4(10):247 (1946) for revised nomenclature, and Taxon 27(4):375 (1978) for alternate nomenclature.

Annual herb
R/T/E in CA
[None] No state
[None] No federal
[None] Del Norte [?], Inyo
[None] California (502A), Math
[None] Sebastopol (625A), Reading
[None] Harkness (569D), Meadows, Mar
Quads: Bogs and fens, Meads, Mar
(569D)
Habitat: Does plant occur in DNT, INY,
Elevation: 60-2,040 m.
Notes: grazing, trampling, and hydrolo
on review list in OR.

CHOSPORA CALIFORNICA
California beaked-rush

Perennial herb (rhizomatous)
[1B] R/T/E in CA and elsewhere
[None] No state status
[None] No federal status
[None] Marin, Sonoma
[None] Ridge (457D), Drakes Bay (485C), Sebast
[None] Paradise West (592C), Richardson Springs
[None] fens, Lower montane coniferous forest, Me
[None] (freshwater)
fewer than ten occurrences. Threatened by
[None] 272-273 (1944) for original description,
[None] 26:272-273 (1944) for information on BUT Co. collection.

Family: Cyperaceae
Blooms: July-Augus
R-E-D: 2-2-1

Common elsewhere
[None] Shasta, Sonoma [?], Tehama, Trinity,
[None] side of California [possibly extirpated], Chicago
[None] (502A) Bloomfield (557C), Nevada City (558D),
[None] (591B), Pulga (591C), Paradise West
[None] City Center (666B), Schell Mtn. (666D)
[None] Meadows, Marshes and Swamps, Upper
[None] ned by grazing and development.
[None] ic treatment.

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

RHYNCHOSPORA GLOBULARIS VAR. *GLOBULARIS*
"round-headed beaked-rush"

Family: Cyperaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** July-August
CNPS List: [2] R/T/E in CA, but more common elsewhere **R-E-D:** 3-3-1
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma, widespread outside of California
Quads: Sebastopol (502A), Two Rock (502D)
Habitat: Marshes and Swamps (freshwater)
Elevation: 45-60 m.
Notes: Seriously threatened by marsh habitat loss.

SIDALCEA CALYCOSA SSP. *RHIZOMATA*
"Point Reyes checkerbloom"

Family: Malvaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** April-September
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin, Sonoma
Quads: San Rafael (467A), Petaluma (484B), Tomales (485B), Drakes Bay (485C),
Inverness (485D), Valley Ford (502C), Duncans Mills (503A), Stewarts Point
(520B), Saunders Reef (537C), Elk (552B), Albion (553A)
Habitat: Marshes and Swamps (freshwater, near coast)
Elevation: 3-75 m.
Notes: See Manual of the Flowering Plants of California, p. 629 (1925) by W.L.
Jepson for original description.

SIDALCEA MALVIFLORA SSP. *PURPUREA*
"purple-stemmed checkerbloom"

Family: Malvaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** May
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Counties: Mendocino, Marin [?], San Mateo, Sonoma
Quads: Bodega Head (503D), Cazadero (519D), Stewarts Point (520B) [?], Plantation
(520D), Gualala (537D), Fort Bragg (569A)
Habitat: Broadleafed upland forest, Coastal prairie
Elevation: 15-65 m.
Notes: Does plant occur in MRN Co.? Need quads for SMT Co. See University of
Washington Publications in Biology 18:23 (1957) for original description.

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

STREPTANTHUS GLANDULOSUS VAR. *HOFFMANII*
"secund jewel-flower"

Family: Brassicaceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Arched Rock (503B), Warm Springs Dam (519A), Tombs Creek (519B), Fort Ross (519C), Cazadero (519D)
Habitat: Chaparral, Cismontane woodland, Valley and foothill grassland (often serpentinite) / rocky
Elevation: 120-475 m.
Notes: Historical occurrences need field surveys. See *S. glandulosus* ssp. *secundus* in The Jepson Manual. See Madrono 14(7):223 (1958) for original description, and Systematic Botany 19(4):557-574 (1994) for discussion of *S. glandulosus* complex.

Blooms: March-July
R-E-D: 3-1-3

STREPTANTHUS MORRISONII SSP. *ELATUS*
"Three Peaks jewel-flower"

Family: Brassicaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Lake, Napa, Sonoma
Quads: Aetna Springs (516B), Detert Reservoir (517A), Mount St. Helena (517B), Fort Ross (519C), Cazadero (519D), Jericho Valley (532C), Knoxville (532D), Middletown (533D)
Habitat: Chaparral (serpentinite)
Elevation: 90-815 m.
Notes: Threatened by herbivory. See *Streptanthus morrisonii* in The Jepson Manual. See Madrono 11(6):228 (1952) for original description and 36(1):33-40 (1989) for additional information.

Blooms: June-September
R-E-D: 3-2-3

STREPTANTHUS MORRISONII SSP. *HIRTIFLORUS*
"Dorr's Cabin jewel-flower"

Family: Brassicaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Fort Ross (519C), Cazadero (519D)
Habitat: Chaparral, Closed-cone coniferous forest / serpentinite
Elevation: 185-820 m.
Notes: Known from only two small occurrences in The Cedars. See *Streptanthus morrisonii* in The Jepson Manual. See Madrono 11(6):228 (1952) for original description and 36(1):33-40 (1989) for additional information.

Blooms: June
R-E-D: 3-2-3

California Native Plant Society
Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Selected Plants

STREPTANTHUS MORRISONII SSP. MORRISONII
"Morrison's jewel-flower"

Family: Brassicaceae

Life Form: Perennial herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Sonoma
Quads: Fort Ross (519C), Cazadero (519D)
Habitat: Chaparral (serpentine, rocky, talus)
Elevation: 120-585 m.
Notes: See *Streptanthus morrisonii* in The Jepson Manual. See Madrono 11(6):225 (1952) for original description and 36(1):33-40 (1989) for additional information.

TRIFOLIUM AMOENUM
"showy Indian clover"

Family: Fabaceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [FE] Federally listed as Endangered (10/22/97)
Counties: Alameda [extirpated], Marin, Napa [extirpated], Santa Clara [extirpated], Solano [extirpated], Sonoma [?]
Quads: Gilroy (406D) [extirpated], Midway (445A) [extirpated], San Quentin (466B) [extirpated], Bolinas (467B) [extirpated], Cuttings Wharf (483A) [extirpated], Petaluma (484B) [extirpated], Drakes Bay (485C) [extirpated], Inverness (485D) [extirpated], Elmira (498C) [extirpated], Napa (500D) [extirpated], Kenwood (501A) [extirpated], Santa Rosa (501B) [extirpated], Cotati (501C) [extirpated], Sebastopol (502A) [extirpated], Camp Meeker (502B) [extirpated], Valley Ford (502C), Duncans Mills (503A) [possibly extirpated]
Habitat: Coastal bluff scrub, Valley and foothill grassland (sometimes serpentine)
Elevation: 5-415 m.
Notes: Rediscovered in 1993 by P. Conners near Occidental; only one plant found, and subsequent surveys in 1994-1995 unsuccessful. Another occurrence (502C) discovered in 1996. Historical habitat lost to urbanization and agriculture. See *Flora Franciscana*, p. 27 (1891) by E. Greene for original description, and *Fremontia* 22(2):3-7 (1994) for account of rediscovery.

TRIFOLIUM BUCKWESTIORUM
"Santa Cruz clover"

Family: Fabaceae

Life Form: Annual herb
CNPS List: [1B] R/T/E in CA and elsewhere
State: [None] No state status
Federal: [None] No federal status
Counties: Monterey, Santa Cruz, Sonoma
Quads: Salinas (365B), Seaside (366D), Santa Cruz (387E), Loma Prieta (407D), Davenport (408C), Felton (408D), Ano Nuevo (409D), Two Rock (502D), Cazadero (519D)
Habitat: Broadleaved upland forest, Cismontane woodland, Coastal prairie / margins
Elevation: 105-610 m.
Notes: Known from about ten very small occurrences; only one fully protected,

Full Data Report for the Selected Plants

TRIFOLIUM BUCKWESTIUM (cont.)

others threatened land clearing and non-native plants. See Madrono 39(2):90 (1992) for original description.

TRIFOLIUM DEPAUPERATUM VAR. *HYDROPHILUM*
"saline clover"

Family: Fabaceae

Life Form: Annual herb

Blooms: April-June

CNPS List: [1B] R/T/E in CA and elsewhere

R-E-D: 3-2-3

State: [None] No state status

Federal: [None] No federal status

Counties: Alameda, Colusa [?], Monterey, Napa, San Benito, Santa Clara, San Luis Obispo, San Mateo, Solano, Sonoma

Quads: San Luis Obispo (246C), San Felipe (385B), Hollister (385C), Chittenden (386A), Prunedale (386C), Moss Landing (387D), Altamont (445B), Livermore (446A), San Mateo (448D), Oakland East (465C), Oakland West (466D), Denverton (481B), Sears Point (483B), Elmira (498C), Fairfield North (499D), Napa (500D) [extirpated], Santa Rosa (501B), Sebastopol (502A) [extirpated], Camp Meeker (502B), Calistoga (517D)

Habitat: Marshes and Swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools

Elevation: 0-300 m.

Notes: Many sites likely extirpated; need current information on rarity and endangerment. Need quads for COL Co. Threatened by development. See Manual of the Botany of the Region of San Francisco Bay, p.100 (1894) for original description, and Brittonia 32(1):55 (1980) for revised nomenclature.